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Environmental Assessment

Cherry Run Project

Bradford Ranger District, Allegheny National Forest

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INTRODUCTION

The Cherry Run Project proposes actions to improve forest health and transportation within the 7,578 acre project area (Map 1, attached). The project area consists of 5,714 acres of National Forest System (NFS) lands and 1,864 acres of privately owned land.¹ These actions are designed to move the area towards the desired condition as outlined in the Allegheny National Forest (ANF) Land and Resource Management Plan (Forest Plan) and Record of Decision (ROD) (USDA FS 2007a), and ANF Final Environmental Impact Statement (FEIS) (USDA FS 2007b).

The Forest Service prepared this environmental assessment (EA) to meet requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality regulations for implementing NEPA under Title 40 of the Code of Federal Regulations, Parts 1500-1508.

The EA is an integral part of the deciding official's decision on whether to approve the proposed actions or an alternative. The purposes in preparing this EA are to identify and assess potential impacts on the natural and human environment that would result from the proposed action; assess reasonable alternatives to avoid or minimize adverse effects to the environment; identify and provide mitigation measures, if needed, to minimize potential impacts; and facilitate public involvement in the review process.

Purpose and Need for Action

The purpose of Cherry Run Project is to improve forest health, reduce nonnative invasive plants, restore stream conditions, improve wildlife habitat, and maintain the transportation system for access, and safety.

The March 2019 Cherry Run Project public scoping proposal provides the original actions proposed and purpose and need for the project. The Forest Service web link to the scoping proposal is located at: <http://www.fs.usda.gov/project/?project=55612>.

The project is needed to:

- Provide a diversity of vegetation patterns across the landscape that represents well distributed habitats, a range of forest age classes and vegetative stages, a variety of healthy functioning vegetation layers, moderate to well-stocked forest cover, and the variety of vegetation species or forest types necessary to achieve multiple resource objectives and sustain ecosystem health (Forest Plan, page 14);
- Continue to implement and monitor a range of silvicultural and reforestation practices in order to be responsive to emerging issues and regenerate stands to a diversity of tree seedlings of good quality, form and health (Forest Plan, page 14); and,
- Ensure that a healthy, diverse, resilient, and well stocked forest is provided in light of several concurrent forest health threats (Forest Plan, pages 14, 15, and 21).

Forest Health

There are forest health concerns for maturing hardwood forests and several difficulties in establishing new young forests on the Allegheny Plateau (ROD, page 2). The Forest Plan adds forest health strategies to address new threats, incorporates new information on silvicultural and

¹ No activities are proposed on private lands in the project area.

reforestation techniques, and redefines criteria for the use of uneven-aged management (Forest Plan ROD, page 10). In addition, reforestation treatments reduce interfering understory vegetation to accelerate the restoration of diverse understory and developing mid-story structural components, and providing for a healthy and sustainable forested ecosystem (ROD, page 25). The Forest Plan guides management of the ANF to select the most appropriate silvicultural system for an area (Forest Plan, page 64).

Invasive insects and disease continue to be the most significant threats to the health of forests on the ANF. The ANF FY 2008 – FY 2013 Monitoring and Evaluation Report recommends to enhance the diversity of forest vegetation in terms of composition and structure in order to improve the resiliency of the forest and reduce the level of impact from insects and diseases (USDA FS 2014, page 185).

The project area is experiencing an outbreak of diseases and nonnative insects, including black cherry decline, beech bark disease, and emerald ash borer infestation. These factors contribute to the death of native trees. Future tree impacts are anticipated with the onset of the hemlock wooly adelgid and spotted lanternfly. Without action, natural tree regeneration would be affected by both these threats and browse from the deer population.²

Natural regeneration is the primary method used to regenerate hardwood forest types on the ANF, with supplemental plantings if needed, to increase the abundance or diversity of tree species (Forest Plan, page 69). The most important factor to successful natural generation is the amount of advanced seedlings that exists before final overstory removal (Forest Plan FEIS, pages 3-87 and 3-105). The amount of advanced seedling regeneration can be measured by counting the number of desirable trees in an area, to determine the overstory stocking level and is dependent on the availability of tree seeds.

In the Cherry Run project area, there is a decline in overstory tree stocking levels. As trees die from insects or disease, gaps in the tree canopy allow more sun light to reach the forest floor. This added light allows interfering understory vegetation, like fern, grass, striped maple, and beech brush to spread and limits tree seedling establishment. To promote healthy stands that are more resilient to insects and diseases, stands are regenerated before further stocking levels decline and while tree seed crops are still available.

Structural Age Class Diversity in the Project Area

Table 1 provides the existing condition of structural stage and age classes for both private lands and NFS lands within the project area.

Table 1. The existing condition of age class for private and NFS lands within the project area. Private lands source: aerial photographs and 2007 FEIS historical data.

Forest Structural Stage	Age Class, Years	Private Land, Acres	NFS Lands, Acres	Total Acres	Percent Project Area
Early Structural	0 to 10	0	56	56	1
	11 to 20	8	45	53	1
Young	21 to 50	436	415	851	11
Mature	51 to 80	104	348	452	6

² Ongoing monitoring of deer populations, including pellet counts, indicate that the population is increasing across the Forest planning area.

Table 1. The existing condition of age class for private and NFS lands within the project area. Private lands source: aerial photographs and 2007 FEIS historical data.

Forest Structural Stage	Age Class, Years	Private Land, Acres	NFS Lands, Acres	Total Acres	Percent Project Area
	81 to 110	875	3604	4479	59
	111 to 150	313	973	1286	17
Late Structure	151 to 300	0	0	0	0
Old Growth	301+	0	0	0	0
Non-Forested	-	128	272	400	5

Like most of the ANF, the Cherry Run project area presently shows little early or late structural habitat. About 2% of the project area is aged less than 20 years old, and none aged greater than 150 years old. 76% percent (5,765 acres) of the project area is between 81 to 150 years old. The present condition does not meet the Forest Plan desired condition for early structural stages.

Early structural stages created by timber harvest or natural disturbance were projected in the Forest Plan to make up 10 to 12% of ANF NFS lands (USDA FS 2007a, errata). The ANF FY 2008 – FY 2013 Monitoring and Evaluation Report. shows that approximately 3.4% of NFS lands were classified as early structural, aged less than 20 years old (USDA FS 2014). In the long-term, if tree regeneration continues to be lower than the Forest Plan objectives, landscape-level desired structural stages and age classes would not be sustained to meet desired conditions. The monitoring report recommends to increase regeneration treatments to move forest age class and structural stage distribution toward the desired conditions (USDA FS 2014, pages 120, 121).

The ANF has been implementing actions over several years to address forest health through many of its projects. In 2017, the ANF initiated a Forest Health Collaborative with stakeholders in northwestern Pennsylvania and western New York to address the forest health problems across the Allegheny Plateau. Details of the collaborative approach are located on the ANF website at: <https://www.fs.usda.gov/detail/allegheny/home/?cid=FSEPRD544619>.

Overall, this action responds to the Forest Health Collaborative, the ANF FY 2008 – FY 2013 Monitoring and Evaluation Report, and the goals and objectives in the Forest Plan. This Proposed Action helps move the project area towards desired conditions described in that plan.³

- Address nonnative invasive plants (Forest Plan, page 13).

Non-native invasive plant species (NNIP) have become established within the project area and there is a need to implement treatment activities that will limit the further introduction and/or spread of these species and conserve forest resources in a manner that presents the least hazard to humans and maintains or restores forest resources (USDA- FS 2007a, pg. 13).

Information/research on non-native invasive plant species is readily available on websites such as: the Forest Service Invasive Species Program website <http://www.fs.fed.us/invasivespecies/> and the PA Department of Conservation of Natural Resources <https://www.dcnr.pa.gov/Conservation/WildPlants/InvasivePlants/Pages/default.aspx>.

³ The Forest Plan and Monitoring Reports are on the ANF's website: <https://www.fs.usda.gov/main/allegheny/landmanagement/planning>.

Non-native invasive plant species occupy available growing space and use nutrients that could be used by more desired native species, and often lack their natural biotic controls that coevolved with them at their place of origin to keep them in check. There is often a lag phase between first introduction and rapid expansion of the non-native invasive plants. Non-invasive plants, if left unchecked, will limit many uses on lands now and for future generations.

A combination of manual/mechanical treatments and herbicide use has been effective in eliminating targeted nonnative invasive plants in treatment areas, averaging 104 acres treated annually. An integrated approach is used to conduct treatments with the least harm to the environment and human health, and applies the most economical use of the resources at hand (USDA FS 2014, pages 108, 173).

- Enhance wildlife habitat on 1,200 to 1,600 acres each year to provide desired cover and forage conditions (Forest Plan, page 20).

Constructed wildlife openings and grasslands in upland forest areas should be maintained to provide brood rearing habitat for wild turkeys, ruffed grouse, and species with viability concerns. Some openings should be managed to provide late fall mast (fruit producing shrubs) for turkeys while others should provide grass and forb areas for brood rearing. (Forest Plan, page 81).

Develop and maintain mast-producing species on a variety of sites including lowlands, mid slopes and ridge tops. Maintain a diversity of understory and overstory mast-producing species (Forest Plan, page 14).

Eastern hemlocks and other conifer species are well distributed throughout the ANF to provide wildlife cover (Forest Plan ROD, page 7). Conifer in the Cherry Run project area are made up of primarily eastern hemlock. A loss of conifer due to the hemlock woolly adelgid is anticipated for the project area. The Forest Plan identifies a conifer component (greater than 15 BA per acre) on a minimum of 10 percent of the ANF (Forest Plan, page 19).

- Restore and enhance stream processes and aquatic habitat diversity for brook trout and other headwater stream fishes (Forest Plan, pages 14, 20, 22, 46, and 80).

Stream restoration focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate aquatic ecosystem sustainability, resilience, and health under current and future conditions (USDA FS 2014, page 141). Forest Plan objectives call for the completion of an annual 1 to 2 miles of stream restoration or enhancement for native and desired nonnative aquatic species where suitable habitat is lacking (Forest Plan, page 20).

Streams in the project area lack the diversity and complexity of habitat that provides for highly diverse and resilient aquatic ecosystems. Pools and slow water habitat are present but lack cover and pools are generally shallow. Streams have limited connectivity within their historical floodplains. The lack of large wood present in streams, and combined with their generally single channel impedes the ability of the stream to begin to gather woody debris on its own for recovery. Large wood additions creates pools, adds protective cover, and traps and sorts spawning gravel to improve aquatic habitat complexity and quality. Treatments are needed to create a self-sustaining system and returns the stream to a condition to enhance hydrological and ecological processes.

- Provide a safe, efficient and economical transportation system that is responsive to public and administrative needs, while having minimal adverse effects on the natural forest ecosystem (Forest Plan, page 16).

Road construction, reconstruction, realignment, and maintenance are needed to access stands for vegetation management, to reduce sedimentation, allow aquatic organism passage, and maintain public safety. Stands proposed for vegetation management cannot be accessed without new road construction or the addition of existing oil and gas non-system roads to the Forest Service road system. Some roads may need resurfacing or other maintenance to support timber hauling, public travel, or administrative uses. In addition, hazard trees within 100 feet of existing roads may create safety risks if not felled or removed. Culverts in some locations are too small to support aquatic organism passage.

Forest Plan Management Areas

The project area is managed under ANF designated management areas (MA), as defined in the Forest Plan (Table 2). The project would be implemented under the direction for MAs.

Table 2. Description of Cherry Run project area management areas (MA).

MA	Goals and Objectives	Project Area Acres	Forest Plan Pages
2.2	Older, late structural forests that link relatively large areas of older forests (core areas) across the landscape.	3,190.1	109 to 112
3.0	Even-aged management provides a mixed forest that is a mix of predominantly shade intolerant and mid-tolerant hardwood stands of various ages and associated understories, and habitat for a diversity of plant and animal species.	2,523.6	113 to 116

Proposed Action

The following proposed action summaries are displayed on the attached maps (Maps 2, 3 and 4). To address the needs identified for this project area, the following actions are proposed:⁴

Silvicultural Treatments

Table 3 shows the 1,160 acres of silvicultural treatments by management area proposed (Map 2). Descriptions of silvicultural treatments are provided in the Forest Plan, pages 64 to 69 and A-18 to A-26. Timber harvest is an outcome of implementing the stand improvements.

Table 3. Cherry Run silvicultural treatments by management area (MA) (Map 2).

MA	Treatment	Acres
2.2	Accelerate mature forest conditions.	38.6
	Group selection to restore understory mature forest conditions.	241.6
	Shelterwood/final harvest.	0.1
	Two-aged harvest.	90.1
3.0	Group selection to restore understory mature forest conditions.	0.0
	Shelterwood/final harvest.	546.0
	Site preparation/final harvest.	225.9
	Two-aged harvest.	17.8

⁴ Maps 2, 3, and 4 show the location of these actions.

Reforestation treatments (Table 4) are proposed for all vegetation proposals, but would be implemented on a site specific basis (Map 2). Reforestation treatments are described in the Forest Plan, pages 70 to 72 and A-30 to A-36. Acres proposed for reforestation are at the maximum and would likely be less based on the need during implementation.

Table 4. Reforestation actions and acres proposed within the Cherry Run Project area.

Treatment	Acres
Site Preparation, herbicide, weed and release ¹ , fence, and plant.	1121.4
Fertilizer	149

¹ manual cutting of interfering vegetation.

Regenerating declining or poorly stocked stands to vigorous well-stocked stands using a variety of timber harvest and reforestation treatments would help to sustain ecosystem resilience and biodiversity in the project area, in the long term. In some areas, regeneration harvests combined with past and other previously approved regeneration harvests would create temporary openings that would exceed 40 acres in size (Table 5). Early-aged stands are considered temporary openings until dominant and co-dominant trees have reached a height of 15 feet (Forest Plan, p. 68). Forest Plan standards and guidelines would be followed for temporary openings created by the application of even-aged silviculture (USDA-FS 2007, p.68). For example, regeneration proposed in MA 2.2 are proposed for a two-aged or uneven- aged treatments to achieve MA desired conditions.

Table 5. Proposed temporary openings (blocks) that would exceed 40 acres by management area (MA).

Block ⁵	MA	Compartment and Stands	Acres
1	2.2 and 3.0	308001 (MR) ⁶ , 308002, 308004, 308005, 308016, 308018, 308031, 308032, 309003, 309005, 309006, 309008, 309009, 309010, 309011, 309014, 309015, 309017 (MR), 309022, 309024, 309039, 309041, 309044, 310002, 310005, 310008 (MR), 310010 (MR), 310011, 310012, 310014(MR), 310015, 310020, 310021, 310022, 310029, 310042	696
2	3.0	309029 (MR), 309037, 309034, 310031, 310025, 310028, 310034	165
3	3.0	303007 (MR), 303027, 303028(MR), 303029	121
4	3.0	304002 (MR), 304003, 304005 (MR), 304008, 304035 (MR)	78

The blocks identified above represent the maximum size of the opening if all activities were to be implemented at once. The project will not be implemented in this fashion. Opening sizes would be reduced by:

- applying mitigation measures that break up contiguous openings such as stream buffers, other resource buffers, reserve areas, reserve trees, and limits on basal area reduction;
- staggering implementation over the course of several years such as harvesting a portion of one block, and then harvesting the remainder after the first portion harvested regenerates; and/or,

⁵ Blocks are identified as groups of stands that combined would exceed 40 acres.

⁶ MR refers to Martin Run FEIS (USDA FS 2005) stands aged 20 years or less or approved to be implemented.

- other actions to reduce opening size due to operability or other resource concerns.

Non-Native Invasive Plant Treatments

About 700 acres would be treated throughout the project area using a combination of manual, mechanical, and herbicide treatments, or all three over the next ten years (Map 4). Manual treatments include pulling, digging, or hand-roughing. Mechanical treatment includes brush-cutting, mowing, or other motorized use. Herbicide includes the use of glyphosate, sulfometuron methyl, or both, and applied in accordance with Forest Plan standards and guidelines. The treatment combinations would occur several times during a growing season, or over several years until effective. Additional new infestations on the ANF *Invasive Plant Species of Concern* list would be treated consistently with applicable Forest Plan direction.

Wildlife Habitat Improvements

Table 6 provides wildlife habitat improvements proposed in the project area (Map 3).

Table 6. Wildlife habitat improvements.

Treatment	Compartment/Stand	Acres
In existing openings, mow strips, plant shrubs, fruit trees, and conifer groups, add fences, replace damaged fences, and prune fruit trees.	302/5, 7; 309/45; 310/37; and 304/46.	29
Within proposed silvicultural treatment stands; under plant 10% of stands with shrubs (serviceberry, elderberry) and groups of white pine within fenced stands.	302/37; 303/13, 21, 29, 36; 304/26, 29, 34; 308/16, 31, 39; and 310/21, 25	42

Water Resources and Fishery Habitat improvements

➤ Stream restoration

185 trees per mile would be felled into streams and onto floodplains to improve floodplain connectivity, ground water infiltration, discharge rates, and low flow rates (Table 7, Map 3). Trees felled within the riparian areas would occur where large woody debris is lacking and trees are available to be felled without largely reducing stream shading or bank stability. Trees would be of sufficient size and positioned so they are stable in the stream and floodplain.

Table 7. Stream and fishery habitat proposed treatments.

Treatment	Stream Miles
Level 1: fell trees into the streams and move into place by grip hoist or winch.	25.6
Level 2: uproot trees by grip hoist/other equipment to place in the stream.	0.1

➤ South Branch Tionesta Creek Stream Restoration near FR 446 Bridge

About 284 linear feet (0.1 acre) of South Branch Tionesta Creek streambank would be stabilized by constructing large wood complexes. Currently, the stream is migrating into the North Country National Scenic Trail (NCNST) and erosion is occurring. This section of stream is shallow and has potential for pool development. Access to the proposal site would be from Forest road 148 at the trail parking area. Equipment use in the stream and on the NCNST would be temporary to deliver the rock, logs with rootwads, and logs to the site.

Toe stabilization would be accomplished by constructing one engineered large wood complex. About 284 feet of eroded stream bank would be stabilized. The wood complexes would be composed of trees with root wads attached and cut logs. 9- 15' logs with rootwads would be embedded 10' into the bank. 18- 35' logs with rootwads would be placed along the stream bank. Rootwads would face upstream to trap debris and deflect flows. 18- 35' logs would be weaved into the structure. Installing this large wood complex at the stream bend would shift the stream channel over 5' for a distance of 200'. A pool would also be excavated (22' long, 8' wide, and 3' deep (19.5 cubic yards) to use as fill on the back side of the large wood complex.

Logs and rootwad trees (~15" dbh), obtained from approved nearby areas, and includes 6 hemlock trees about to fall into the stream at the site. During construction of the engineered complexes, the logs and rootwads would be laced together and entrenched into the banks where slope allows. Ballast logs would be placed on top of the bottom logs and rootwads to secure the large wood in place.

Transportation Improvements

The project area has about 107 miles of roads: 17 miles of NFS roads, 10 miles of state and township roads, and 80 miles of non-NFS roads. The NFS roads are managed for public motor vehicle use as follows: 2 miles are open year round, 6 miles are seasonally restricted, and 9 miles are closed year around. 0.7 miles are mixed use roads (roads combined as both road and trail). Table 8 provides the transportation actions being proposed within the project area (Map 2).

Table 8. Transportation proposed actions within the Cherry Run project area.

Road Activity	Miles/no.	Forest Road Number		
New corridor construction	0.4 mi.	FR 446H		
Add existing non-system corridor to national forest transportation system (reconstruction, construction, and/or realignment)	4.5 mi.	148A, 148B, 148C, 162 Ext., 413BA, 446F, 446G, 446H, 446JA		
High quality road surfacing - within 300' of a stream.	5.2 mi.	103, 148, 148A, 148C, 162, 413, 446-1, 600		
Maintenance on haul roads	14 mi.	Various Forest Roads		
Existing ≥100 acre watershed culverts/stream crossings - The following forest roads include ≥100 acre drainage areas and aquatic organism passages (AOP). Existing undersized culverts in good condition unless noted.	4 culverts and 1 bridge	Road Number	Stream Name Crossing	Road Milepost
		FR 148	SB Tionesta Creek (Bridge)	0.171
			Rock Run	1.888
		FR 162	West Fork Run (Due for replacement - AOP)	0.617
		FR 413	Unnamed Tributary to Tionesta Creek	0.039
		FR 446-1	Cherry Run (Due for replacement - AOP)	0.013

➤ **Proposed roadside hazard tree salvage/sanitation treatments.**

This hazard tree proposal involves the felling and potential harvesting of merchantable trees that pose as a road hazard (diseased, dead, dying, or excessively leaning trees) (Table 9). Equipment will remain on improved road surfaces. Hazard trees not accessible from roads will be cut and left on the site. The hazard tree treatment meets the purpose and need for the project under providing a safe, transportation system

Table 9. Proposed roadside hazard tree salvage/sanitation.

Treatment	Miles/acres	Location
Salvage/sanitation/safety action for hazard trees within 100 feet on either side of the edge of the road.	22 miles/ 532 acres	Various forest roads

PUBLIC INVOLVEMENT AND TRIBAL CONSULTATION

This proposal was first listed in the Allegheny National Forest Schedule of Proposed Actions in March 2019. This quarterly publication is available on the ANF website. On March 19, 2019, a scoping proposal explaining the purpose and need for action, as well as the locations and types of proposed activities, was mailed to adjacent land owners, local governments, and individuals and organizations who have expressed a desire to be notified about current projects.

The Allegheny National Forest consulted with tribal representatives from 14 Tribes during the public scoping period for the Cherry Run Project. A letter of concurrence was received from the Delaware Nation.

The Forest Service has consulted with the State Historic Preservation Office, in accordance with section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 Code of Federal Regulations Part 800) of the Advisory Council on Historic Preservation. All proposed management activities in this project are being reviewed by this agency for potential effects to cultural resources.

Scoping comments were received from four members of the public and the Warren County School District. A summary of these comments along with Forest Service responses is included in Appendix B of this document. A more detailed response to these scoping comments is included in the project file.

ALTERNATIVES - PROPOSED ACTION (ALTERNATIVE 1) AND NO- ACTION ALTERNATIVE (ALTERNATIVE 2)

For this EA, only the proposed action (Alternative 1) is analyzed in detail (Maps 2, 3 and 4, attached). The no action alternative (Alternative 2) provides a baseline for comparison of potential effects from the proposed action. It is the existing condition of the project area. With Alternative 2, no new actions would be proposed or implemented to accomplish the purpose and need identified on page 1 of this EA for the Cherry Run Project (Map 1, attached). Existing preapproved actions like road maintenance and previously approved treatments, through other decisions, would continue to be implemented.

The proposed action (Alternative 1), as identified, would be implemented to meet the purpose and need identified for this project. Site specific actions are provided on the attached Maps 2, 3 and 4.

Existing preapproved actions like road maintenance and previously approved treatments through other decisions, would also be implemented.

Mitigation Measures

All timber units were field reviewed. Resource specialist notes were compiled into a spreadsheet and was reviewed/discussed by the Interdisciplinary Team and the Decision Maker. These discussions resulted in this list of site-specific mitigations that respond to local resource concerns and are above and beyond the standards and guidelines in the Forest Plan.

Site specific mitigation measures, applied to the proposed action, are measures to reduce or avoid project related impacts. The Forest Plan provides design criteria applicable to all ANF actions (USDA FS 2007a, b). Specific Forest Plan direction related to the proposed actions is located in Appendix A. Best management practices applicable to this project are provided in the References section of this EA. Mitigation measures, specific to the Cherry Run project, are as follows:

Recreation

- As appropriate, implement design features from the Allegheny National Forest Scenery Implementation Guide.
- Through news releases, website messages, district office postings, and other public contacts, notify the public of road, trail, or area closings.
- As a part of timber sale agreements, require commercial operators to post warnings of heavy truck traffic on open Forest Roads and post trail closures at those unit boundaries where trails enter a stand being actively worked.
- Felling, skidding, stacking, and hauling should not occur on weekends or holidays.
- The North Country National Scenic trail should have a 100' buffer on either side of the centerline of the trail where no timber will be cut.
- Twin Lakes trail will have a 50' buffer on either side of the trail.
- Stands surrounding the trails will be marked on the side facing away from the trail.
- Crossing of trails by equipment and materials will be kept to the minimum necessary to accomplish the project objectives, and equipment and materials should not intrude upon the trail corridor when not in use.
- Tops felled into the trail corridor will be removed by the contractor and trail tread through any trail crossing will be repaired to a firm, dry surface.

Species with Viability Concerns

- To avoid impacting northern long-eared bats, roadside hazard tree removal activities would only take place between November 1 and March 31 unless a complete assessment is prepared in advance. (See Programmatic Biological Opinion on the Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions, page 7, conservation measure 2(a)).

Water Resources and Fisheries

- In the identified small watersheds (see Table 19) that were predicted to exceed 25 percent reduction in basal area, the following would occur:
 - Stands would be prioritized for operation using the shelterwood system, in order to not exceed 25% of the watershed with a vegetation age of 0 to 5 years of age.
- Small watersheds would be monitored by comparing the acreage of proposed harvest to the size of the watershed to ensure that forested land is composed of less than 25% in the 0 to 5 year age class.
- In addition, water quality monitoring and brook trout monitoring would occur on a subset of these watersheds to determine any impacts or response.

Alternatives Considered but Eliminated from Detailed Study

Federal agencies are required by NEPA to rigorously explore and objectively evaluate a range of reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not considered in detail (40 CFR 1502.14). Typically, alternatives to the proposed action are derived from two sources: external comments received during the project's "scoping" period and unresolved issues identified by the interdisciplinary team during the initial project analysis. During scoping, no public comments were received that clearly identified an alternative means to meet the purpose and need.

One comment suggested that the Forest Service look at an alternative that does not include new road construction. The project proposes .4 miles of new road construction. This alternative was eliminated from detailed study because it falls within the scope of the no action alternative. If no new road (0.4 mile) is constructed, about 30 acres of vegetation management would not be implemented. Since the environmental effects of foregoing management action are discussed in context of the no action alternative throughout this EA, a no road construction alternative is within the range of alternatives already considered.

The interdisciplinary team and responsible official considered an alternative that would restrict temporary opening size to 40 acres or less, and then revisit the untreated areas in the future, after adjacent treated stands are restocked. This approach is not viable since additional tree mortality is likely to occur well before adjacent areas are restocked. It may take 10 to 15 years for treated stands to reach 15 feet tall, when they are no longer considered a temporary opening. This gap between seed tree mortality and adjacent stand restocking, when combined with overstory decline and mortality from other factors, would likely reduce the ability to naturally regenerate stands.

The proposed blocks of temporary openings are an outcome of addressing the forest health concerns by regenerating stands while a viable seed sources are still available. The temporary openings meet the purpose and need for the Cherry Run project and implement Forest Plan desired condition objectives for early successional habitat.

As stands are regenerated over time, each block would consist of a mosaic of early successional forest with varying heights of young trees in a non-uniform pattern. Within each block, large trees would be retained within riparian corridors and through reserve trees and areas (.25 acre per five acres) within each stand. Protected resources, like rare plants and cultural resources are avoided.

Restricting temporary openings to 40 acres or less would likely result in negative consequences for forest health, as some stands would not be treated. With the combined forest health declines and tree regeneration concerns, the forest in this area may result in a patchwork of scattered and fragmented stands with the overstory stocking reduced below a 44% relative density (number of trees in an area). This tree density represents the minimum density considered to occupy a site's resources, such as uptake of soil nutrients and water, and occupy all available growing space. With tree mortality, stand understories dominated by beech brush and other interfering fern, grass, and striped maple, expand and cast shade resulting in tree seedlings inability to become established. Natural tree regeneration opportunities may be lost prior to the next planning cycle and tree species diversity would decline without treatment. Forest Plan desired condition and objectives, such as providing a mix of vegetative conditions and quality timber products would be difficult to achieve or maintain in the project area without treatment.

Also considered was salvaging dead and dying trees in these stands without any reforestation activities. This approach, however, would not achieve the purpose and need since stand health is

expected to continue to decline. As stocking levels and understory diversity continues to decline, the ability to naturally regenerate a younger age class of diverse, hardwood species would be increasingly difficult. The outcome would result in a two-aged community, consisting of a poorly stocked overstory and an understory dominated by undesirable vegetation such as disease-prone beech root suckers.

ENVIRONMENTAL CONSEQUENCES

Environmental Consequences are the environmental effects of project alternatives, including the proposed action (Alternative 1), any adverse environmental effects which cannot be avoided, the relationship between short-term uses of the human environment, and any irreversible or irretrievable commitments of resources which would be involved if the proposal should be implemented (40 CFR 1502.16). The following analysis discloses the environmental consequences for the Cherry Run Project.

The project is located in the vicinity of Henrys Mills, Pennsylvania. The project area is bound to the north by the East and South Branches of the Tionesta Creek; to the east by the Tionesta Scenic and Natural Areas; to the south by the Marienville Ranger District boundary; and to the west by Tionesta Creek (Map 1). The project area includes the following small watersheds: Cherry Run, East Branch Tionesta Creek, Martin Run, Mead Run, Rock Run, South Branch Tionesta Creek, Tionesta Creek and West Fork Run, respectively (Map 1). Map 1 provides details of the existing condition. The affected environment is provided throughout the environmental consequences to describe the effects of the proposed action (Alternative 1) and as compared to no action alternative (Alternative 2).

The following documents are tiered to and incorporate by reference to support this EA:

- ANF Forest Plan and Record of Decision (USDA-FS 2007a), FEIS (USDA-FS 2007b), and ANF FY 2008 – FY 2013 Monitoring and Evaluation Report (USDA FS 2014) posted at the web link:
<https://www.fs.usda.gov/main/alleggheny/landmanagement/planning>.
- *Understory Vegetation Management on the Allegheny National Forest* EIS (USDA FS 1991, pp. 5-1–5-4, D-1–D-12) and *Vegetation Management on Electric Utility Rights-of-Way* EIS (USDA FS 1997) (Project Record).
- Past decisions within the project area include the Martin Run FEIS and ROD (2005) (Project Record). Remaining treatments from the Martin Run project include 106 acres of final harvests. Also, the Hemlock Woolly Adelgid (HWA) Suppression Project EA and Decision Notice (USDA FS 2015) authorized treatments to manage infestations of the hemlock woolly adelgid. It includes 717 acres of Hemlock Conservation Areas and 86 acres of Hemlock Focal Areas, located along East Branch Tionesta Creek and several of its tributaries where chemical and biological controls may occur within the focal areas. No HWA suppression treatments have occurred within Cherry Run to date.
- Cherry Run Project specific reports (USDA FS 2018) support this EA in their entirety (Project Record):
 - Biological Assessment of Endangered and Threatened Species for Wildlife,
 - Biological Assessment/Biological Evaluation for Plants,
 - Biological Evaluation for Wildlife,
 - Biological Evaluation/Biological Assessment for Fish and Aquatic Invertebrates,
 - Hydrology Resource Report,

- Nonnative Invasive Plants Report,
- Recreation Report, and
- Vegetation Report

Public Health or Safety

Herbicide Application

Glyphosate or sulfometuron methyl treatments are proposed for interfering vegetation that inhibit tree regeneration and for reducing the spread of nonnative invasive plants (Alternative 1). Overall risks from the planned use of glyphosate and sulfometuron methyl are expected to be low and are discussed in Forest Plan (pages 54 to 59 and A-33 to 38), ROD (page 23), and Forest Plan FEIS (pages 3-119 to 122 and Appendix G) (USDA FS 2007 a, b.). The ANF uses only pesticides registered by the U.S. Environmental Protection Agency (USEPA), and implements the direction provided in the Forest Service handbook and manual, except as otherwise provided for in regulations, orders, or permits issued by the USEPA. Additional information to support Forest Service use of glyphosate is provided in the *Human Health and Ecological Risk Assessment Report* (SERA 2011).

To prevent human exposure while implementing the proposed action (Alternative 1):

- Broadcast herbicide treatments are implemented away from private residences and their water sources.
- Application is at a minimum of 150 feet from known residences. In all cases of broadcast application, the treatment would be applied when minimal risk of accidental exposure is possible.
- Landowners and residents adjacent to treatment areas and individuals known to use a treatment area would be notified prior to application.
- Warning signs, maximum wind caps (10 mph), directional spraying (near property lines and trails), landowner notification, timing, and buffers would minimize accidental contact.

Tree Harvesting

The risk to the public from the harvest actions is low. Harvest areas would be marked to provide warnings. Because of the high potential for dead and dying trees in the project area, with no action (Alternative 2), these trees would deteriorate and become vulnerable to wind stress or other natural forces that could cause them to fall over and potentially cause injury. Hazard trees along roadways may fall on vehicles, on roadways or on individuals. Once on the road surface, fallen trees may also be a hazard to moving vehicles or individuals that clear the roadways.

The proposed action (Alternative 1), in contrast, would improve safety by removing hazard trees and regenerating declining areas into healthy, diverse, and resilient stands.

Transportation

The proposed transportation actions (Alternative 1) would have beneficial effects for public safety through the construction of new road and reconstruction, construction, and/or realignment of existing road corridor to provide for safe travel within the project area. Additionally, by adding these as system roads, road maintenance funds would be applied for their upkeep. By cutting hazard trees, trees that are leaning, dying or dead, along system roads reduces the risk for a tree to fall on individuals or vehicles. With no action (Alternative 2), no road improvements would occur and the potential for falling trees, safe travel would be at increased risk.

Recreation

Overall, both the proposed action and no action for the Cherry Run Project represent logging actions in the project area. There would be increased truck activity. It would not occur in all treatment areas during the entire project period, nor are treatment areas so concentrated that they would cause unmanageable traffic on specific roads. Timing of harvest and haul actions can be scheduled to avoid weekends and holidays when recreation traffic can be expected to be higher than week day traffic. This may be managed by posting of notices of active work areas and closures in the ranger district offices and local newspapers. Planned removal of infected or dying trees as insect and disease vectors invade the area would improve safety for forest visitors. Improved road surfacing and maintenance would also better provide for the safety of the visiting public.

Unique Characteristics of the Geographic Area

Unique characteristics of the Cherry Run project area include prime farmlands, wetlands, and floodplains. The ANF has a congressionally designated National Scenic Trail, the North Country National Scenic Trail (NCNST) that bisects the project area. The analysis of the proposed actions on these characteristics are provided below. There are no historic or cultural resources that are listed or proposed in the National Historic Register within the project area. Cultural Resource sites that are of interest would be flagged and avoided. There are no park lands, wild and scenic rivers or other ecologically critical areas within the project area that would be affected by the proposed actions. The eastern project area boundary borders the Tionesta Research Natural Area and Tionesta Scenic Area, and are discussed below. Proposed treatments are planned within 300 feet of this boundary.

Prime Farmlands and Soils of Statewide Importance⁷

Forest lands that have the best combination of physical and chemical soil properties for growing are considered *Prime Farmlands* and *Soils of Statewide Importance*. These soils have adequate and dependable moisture supplies, favorable temperatures and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. Slope ranges mainly from 0 to 6%.

The state soil scientist ensures that all nationally significant interpretative soil group assignments, like prime farmland or farmland of statewide importance, are included in the official soil survey database. Soils classified as “*prime farmland*” and “*farmland of statewide importance*” are designated by the U. S. Natural Resource Conservation Service state designated soil scientist in cooperation with the state. These soils are protected by law in an effort to slow their conversion from farmland to non-agricultural uses. Table 10 provides these soil types and amounts within the Cherry Run project area.

Table 10. U. S. Natural Resource Conservation Service designated Prime Farmlands and Soils of Statewide Importance within the Cherry Run project area.

Soils designated with Unique Characteristics	Designated Farmland Acres	Designated Farmland Percent
Prime Farmlands	261	3
Soils of Statewide Importance	1,045	14

⁷ In addition to consideration of Prime Farmlands and Soils of Statewide Importance, a Soils analysis report was prepared for the Cherry Run Project and is filed in the project file.

Farmland soils make up about 17% of the project area. There are no farmland soils displacement for any of the Cherry Run proposed actions. No farmland conversion in the treatment units would occur in this project due to the proposed actions. No significant impacts to prime farmland or farmland of statewide importance are anticipated.

Wetlands and Floodplains

Within the project area, National Wetland Inventory (NWI) wetlands and floodplains occur along areas of the Tionesta Creek, three Unnamed Tributaries (UNTs) to Tionesta Creek, Mead Run, UNT to Mead Run South Branch Tionesta Creek, five UNTs to South Branch Tionesta Creek, Martin Run, Cherry Run, Rock Run, West Fork Run, East Fork Run, East Branch Tionesta Creek, and an UNT of East Branch Tionesta Creek. Proposed treatments in these areas involve only the stream improvement proposals and are intended to improve stream quality and fishery habitat. The addition of large woody material (Alternative 1) would benefit floodplains by slowing water movement and increasing infiltration. Small, isolated, and naturally occurring wetlands occur within stands of proposed vegetation actions. These wetlands would be avoided and buffered during project layout. There would not be any development or alterations in/of wetlands from this project.

North Country National Scenic Trail

The North Country National Scenic Trail (NCNST) bisects some of the proposed action (Maps 2 and 3). The NCNST provides opportunities for long distance hiking and backpacking.

Forest Plan guidelines (Appendix A) and mitigation measures provided for this project will provide protections from impacts to the NCNST from the proposed actions.

Tionesta Research Natural Area and Scenic Area

Two areas given special designation by the Forest Service border the project area and proposed vegetation treatments and stream treatments: the Tionesta Scenic Area (TSA) (MA 8.3) and the Tionesta Research Natural Area (RNA) (MA 8.5).

Table 11. Silvicultural treatments proposed within 300 feet of the Tionesta Scenic Area (TSA) (MA 8.3) and the Tionesta Research Natural Area (RNA) (MA 8.5).

Compartment Stand	Treatment	Acres	Borders TSA	Border TSA Feet	Borders RNA	Border RNA Feet
309015	Shelterwood, Final Harvest	35	X	2,366		
308004	Shelterwood, Final Harvest	35	X	1,237	X	214
308005	Shelterwood, Final Harvest	11	X	891		
309022	Site Prep, Final Harvest	10	X	106		

Table 11. Silvicultural treatments proposed within 300 feet of the Tionesta Scenic Area (TSA) (MA 8.3) and the Tionesta Research Natural Area (RNA) (MA 8.5).

Compartment Stand	Treatment	Acres	Borders TSA	Border TSA Feet	Borders RNA	Border RNA Feet
309003	Site Prep, Final Harvest	31	X	328		
308032	Site Prep, Final Harvest	16	X	460		
309041	Site Prep, Final Harvest	14	X	540		
304002	Two-Aged Harvest	9	X	623		

The Cherry Run Project does not propose any activities within the RNA or TSA.

Project activities are not expected to effect the values of the TSA.⁸ There are no viewpoints into treatment units from the Tionesta Scenic Area except from the North Country National Scenic Trail, which will have a 100' buffer. Trail users may notice more light through the trees until the young stand grows up.

For the RNA, the Allegheny Forest Plan calls for an evaluation of any proposed activity within 300 feet of the RNA boundary to ensure that the activity is consistent with the values of the area (Forest Plan, page 62).⁹ One of the proposed regeneration treatments (308004) is immediately adjacent to approximately 214 linear feet of the RNA boundary. A 300 foot distance was selected as the zone of influence that the proposed treatment could possibly have on the RNA in terms of side lighting and increased windthrow risk.

A no effect determination was reached for the following reasons:

- This area (214' by 300') is equivalent to approximately 1.5 acres—a small portion of the 2,111 acre RNA.
- The effect of side lighting is dependent on the density and health of the affected forest, and mortality from beech bark disease and past windthrow events has already opened up forest canopies and increased light levels to the forest floor, substantially reducing anticipated edge effects

⁸ The objectives of the TSA are included in the 2007 Forest Plan on pp. 29, 153-156. The primary objective of the areas is the protection of the ecological and historical values associated with old growth Forests in the area. Many of these old growth stands were modified by natural forces (e.g. tornado) after the 2007 Forest Plan. Nevertheless, Forest Plan Standards and Guidelines continue to apply to this area. There are no specific standards and guidelines; however, that apply to activities outside the TSA boundary.

⁹ The RNA is managed to maintain unmodified conditions for research, study observation, monitoring and educational activities.

- Professional experience and observation on the ANF have indicated that there is little difference between the degree and severity of windthrow between managed and unmanaged areas of the Forest. Regenerated areas, which result in temporary forest openings, do not appear to introduce additional windthrow risk to adjacent forested areas.

Uncertainty

The effects disclosed in this EA are not highly uncertain and do not involve unique or unknown risks. Much is known regarding the outcomes when using even-aged forest management on the ANF (Forest Plan, pages 26, 113-115, A-19). The effects of the various elements of the proposed action have been studied from past ANF projects for at least a decade, and including the Martin Run EIS (2005) that was previously approved for the project area.

Monitoring information provided in ANF FY 2008 – FY 2013 Monitoring and Evaluation Report concerning effects and mitigation effectiveness was a key part of the analysis for this proposal (USDA FS 2014).

The project's interdisciplinary team of resource specialists considered the best available scientific information as well as scoping comments received from the public on the initial proposal. All comments received during the scoping period were reviewed and responses were developed (Project Record). Specialists developed detailed resource reports, provided in the project record and provided conclusions of the effects on resources disclosed in this EA. No significant effects have been identified for the proposed actions (Alternative 1).

Precedent for Future Actions

The proposed action (Alternative 1) does not establish a precedent for future actions with significant effects, nor does it represent principles about a future consideration. The size of the project area, size of individual treatment areas, scope of actions, duration of implementation, and prescribed methods are typical of other multiple-use management projects on the Bradford Ranger District. Temporary openings, greater than 40 acres and harvesting in MA 2.2 have been approved for previous ANF projects. All management actions are consistent with Forest Plan direction for the affected management areas and resources, and are intended to directly address and achieve Forest Plan goals and objectives.

Resource Effects Analysis - Direct, Indirect and Cumulative Effects

Vegetation, Invasive Plants, Water and Fisheries, Scenery, and Recreation

This discussion discloses the direct, indirect and cumulative effects of the proposed actions (Alternative 1) as compared to the no action alternative (Alternative 2) for each of the following resources analyzed: vegetation (forest age class, stocking levels, forest type and invasive plants), water and fisheries, as well as, scenery and recreation within the Cherry Run project area.¹⁰ The environmental consequences for listed threatened and endangered species, migratory birds and cultural resources follows this section.

Direct effects occur at the time and place the action (Alternative 1) is implemented. These are effects that would occur directly to a resource as a result of the proposed actions. Indirect effects occur off-site or later in time. These are effects that are caused by or would result from the proposed action and are later in time, but are still reasonably certain to occur.

¹⁰ Information included in this Environmental Assessment is a summary of the analysis include in the specialist reports.

Cumulative effects are the incremental environmental impact or effect of the proposed action (Alternative 1), together with impacts of past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

The project boundary (Map 1) is identified as the cumulative effects analysis area to where the effects of the proposed action (Alternative 1) combined with any other actions occurring on NFS lands and private lands would become negligible over the foreseeable future timeframe of 20 years for most of the resources. Additionally, water resources has identified small watersheds, where the silvicultural treatments are proposed for analysis of cumulative effects (Maps 1 and 2). These small watersheds are within the Dunham Run-West Branch Tionesta Creek, East Branch Tionesta Creek, Lower Sheriff Run-Tionesta Creek, and South Branch Tionesta Creek.

Past actions and present actions are reflected in the description of the existing condition. Reasonably foreseeable actions include 106 acres of previously approved final harvests from the Martin Run Project (2005). The cumulative effects analysis also includes the existing condition and reasonably foreseeable projections for oil and gas development of the private mineral holdings within the project area.

All mineral resources in the project area are privately owned. For NFS lands, the National Forest make up the surface lands, while private mineral right holdings make up the sub-surface lands. Development of minerals for these private holdings are not under the Forest Service jurisdiction and are regulated by the PADEP. Present and projected openings by oil and gas development are provided in Tables 12 and 13 and included in the cumulative effects analysis.

Table 12. Oil and Gas Development: existing condition and projections.¹¹

Shallow Wells	No./acres
Existing wells (no.)	823 wells
Estimated acres currently impacted	823 acres
Short Term (10-year) Proposed Wells ¹²	218 new wells
Future Marcellus (deep well) development – one development	10 acres
Long Term (20-year) Proposed Wells	436 new wells
Long term (20 year) acres affected	1,400 acres ¹³

Vegetation (Forest Age Class, Structure, Density and Forest Type) Proposed Action - Direct and Indirect Effects

One of the primary objectives of ANF forest management is to maintain healthy, moderately to well-stocked stands on more than 90 percent of the forest lands on the ANF (USDA Forest

¹¹ Table 12 includes present and future shallow well projections. Currently, there is no Marcellus shale gas development within the project area. For analysis purposes, an assumption is made that one Marcellus shale development will occur in the next ten years. This will result in an estimated 10 acres of clearing by 2038.

¹² Short term and long term well numbers included here are projections based on ten years of previous development. The numbers included here are for projection purposes only. Actual development will vary depending on the market, changes in technology etc...

¹³ Acres included here are estimated based on an average of 1.3 acres of clearing (roads, well pads etc...) for new oil and gas development.

Service 2007a, pp. 19). One way of measuring how well a site is occupied is to evaluate a measure of stand stocking, or relative density—a measure of site utilization that accounts for variations in size and species composition (Marquis et al. 1992). Stocking levels are defined as low (0-44%), moderate (45-74%), and high (>75%).

According to stand exam data collected in 2014/15, relative densities for stands included in the proposed action range from 53 to 134%, with an average of 84%. American beech, white ash, and black cherry—species with substantial forest health concerns—account for much of this stocking. Eighty-six percent of the stands proposed for treatment have low to moderate stocking if these species are removed from consideration (Table 13).

Table 13. Healthy stocking levels¹⁴

Stocking levels (Percent)	Acres	Percent
Low (0-44)	250	23
Moderate (45-74)	699	63
High (>75)	151	14

All of the stands have low to moderate stocking if Eastern hemlock (hemlock woolly adelgid) and sugar maple (sugar maple decline) are also removed from consideration (Table 14).

Table 14. Healthy stocking levels

Stocking levels (Percent)	Acres	Percent
Low (0-44)	936	85
Moderate (45-74)	164	15
High (>75)	0	0

The proposed action would improve the overall health of these declining stands by reducing understory dominance of interfering vegetation (fern, grass, striped maple, and beech) and creating light conditions that favor the establishment of younger tree seedlings. The first entry harvests, including thinnings to accelerate mature forest conditions (AMFC), shelterwood seed cuts, and single tree selection cuts for the group selection to restore understory mature forest conditions prescription (RUMFC), would achieve multiple use objectives and recover the timber value of trees to be killed by emerald ash borer, beech bark disease, black cherry decline and sugar maple decline. A portion of this value would be retained to fund the proposed reforestation treatments, e.g., site preparation and herbicide, to reduce understory dominance of native invasive species, such as beech brush, ferns and grass. Together, these treatments would create free growing space, and favorable light conditions that favor the establishment of other tree species, shrubs, forbs, and wildflowers which are not currently present. Species targeted by the herbicide treatment would initially be reduced in abundance, but would persist in smaller numbers within the stand, and in areas where herbicide would not be applied. Ultimately, a wider range of plant communities would be expected in the treated stands as a result of the treatment.

Second entry harvest treatments, e.g., shelterwood removal cut, would provide nearly full sunlight conditions to the newly established community, allowing it to progress into the sapling stage of stand development and beyond. Because even-aged methods favor the establishment of

¹⁴ Stand stocking levels were adjusted to remove all American beech and white ash, eastern hemlock and black cherry and sugar maple component exhibiting crown dieback

shade-intolerant and mid-tolerant tree species (Bjorkbom and Walters 1986, Horsley et al. 1994, pages 205-246), the proposed treatments would result in increases in species richness when compared to the No Action alternative. The regenerated stands would be more vigorous, and more resilient to future disturbance than the existing stand (Nyland 1996, pp. 466).

Across all management areas, stands currently in an early structural habitat condition account for approximately 3.6 percent (16,495 acres; excludes openings and other non-forested areas) of the Allegheny National Forest. This is less than half of the 8 to 10 percent goal identified in the Forest Plan (USDA Forest Service 2007a, pp. 11). The proposed action would result in the creation of approximately 880 acres of additional early structural habitat (Table 15).

Table 15. Direct effects of the Proposed Action and the No Action on structural stage (age class) distribution.

Age Class:	0-10	11-20	21-50	51-80	81-110	111-150	151-300	301+
	<i>Acres</i>							
<i>Existing Condition</i>	0	0	17	15	843	285	0	0
<i>Future Condition (2039)</i>								
Proposed Action	654	226	0	0	98	182	0	0
No Action	0	0	0	32	146	960	22	0

The proposed action would likely produce moderate shifts in forest types (Table 16), including decreases in the northern hardwood, and Allegheny hardwood types; and increases in the mixed upland hardwood type.

Table 16. Current and anticipated forest types for the proposed action.

Forest Type	Current Acres (2019)	Anticipated Acres (2039)	Percent Change
Northern hardwood	106	0	-100
Allegheny hardwood	149	0	-100
Red Maple	149	326	+118
Sugar Maple	14	0	-100
Beech	10	0	-100
Mixed upland hardwood	732	834	+14

The driving influence behind these anticipated shifts are the dynamic changes in forest health and silvics that have occurred on the High Allegheny Plateau in recent years. Black cherry, the dominant tree species of the Allegheny hardwood type, has experienced significant decline, mortality, and diminished seed production during the past 10 to 15 years (Long, et al. 2015, unpublished). The uncertainty associated with black cherry health and its continued reliability as a seed source, combined with continued reduced white-tailed deer impacts on red maple regeneration would likely cause some of the Allegheny hardwood stands to regenerate more heavily to other hardwood species, including, red maple, sweet birch, cucumbertree and yellow-poplar.

The loss of mature American beech from beech bark disease, and the decline of tree species sensitive to site nutrients (or high base cation demanding species), such as sugar maple have made maintenance and regeneration of the northern hardwood forest type on the ANF very difficult. The loss of white ash, and the potential loss of Eastern hemlock to non-native insects would further contribute to the challenge. Birch species, including sweet and yellow, are perhaps

the healthiest component of the northern hardwood forest type, and while these species are currently a minor component in most stands, they have been regenerating prolifically across the landscape because of their ability to produce abundant amounts of light, wind-dispersed seed. Once established, birch will outgrow other tree species, including; black cherry, red maple, and oaks. The proposed action would likely convert northern hardwood stands to a more resilient mixed upland hardwood type by retaining red maple and black cherry as seed sources, and implementing reforestation treatments to control birch dominance. Despite these efforts, it is likely that some of these areas would regenerate more heavily to birch.

Vegetation (Forest Age Class, Structure, Density and Forest Type) No Action - Direct and Indirect Effects

Vegetation management activities approved in previous NEPA decisions (Martin Run EIS)—that have not yet been implemented—would be implemented by the year 2029.

American beech, black cherry, white ash, and sugar maple would continue to experience substantial loss of basal area as a result of native and non-native insects and diseases. Beech bark disease would inevitably kill 95% or more of the mature beech component, and further extend the dense understory thickets of root sprouts that cast dense shade on the forest floor, preventing other tree species from becoming established (Hille 2014). Overstory black cherry decline and mortality would likely continue at similar, or higher rates than what has been observed over the past 10 to 15 years. EAB induced mortality would reach or exceed 99 percent by 2023. Sugar maple decline and mortality would also continue. As the dead trees fall or break, they would cause further canopy loss to neighboring trees. Cumulatively, these forest health disturbances would reduce overstory stocking in every stand, in many cases, below 44% relative density (RD)—the minimum density that is considered to be fully occupying a site's resources (USDA Forest Service 2007b, pp. 3-91), and a suggested threshold (Marquis et al. 1992) for considering stand regeneration in response to factors that cause tree decline and mortality. Because the mortality would occur at a scale that does not affect whole stands, changes to the overall structural stage distribution would be minimal (Table 1).

Reforestation activities to control interfering vegetation, and encourage establishment of a diversity of mid-tolerant and shade-intolerant tree species would not occur; therefore, overstory gaps would facilitate growth of the existing understory vegetation. Gaps would be filled by a multitude of species, including striped maple, American beech, sweet birch, fern species, non-native invasive species, black cherry, yellow poplar, and red maple. The species composition would vary due to different understory conditions found in a particular stand or gap prior to mortality.

Individual tree mortality from emerald ash borer, beech bark disease, black cherry decline, sugar maple decline (Horsley et al. 1999 and 2002), and potentially hemlock woolly adelgid would create unpredictable shifts in forest type. Both northern hardwood and Allegheny hardwood stands would likely transition to mixed upland hardwoods and single species types, including: red maple; birch; or beech. The red maple and birch dominated stands may provide a poorly stocked, low-quality timber resource in the future, but it would be substantially less in comparison to the existing condition. Stands with a substantial American beech component would consist of beech thickets, which would stay perpetually small in diameter, and height—never developing into a mature, high canopy forest.

Vegetation (Forest Age Class, Structure, Density and Forest Type) Cumulative Effects by Alternative

The cumulative effect of the proposed, previously approved, and private land harvesting activities on the structural stage distribution of the project area are described by alternative in Table 17.

Table 17. Cumulative effects comparison of the proposed action and no action alternative on structural stage (age class) distribution for the Cherry Run project area.

Structural Stage	Age Class	Existing Condition	Proposed Action 2039	No Action 2039
		<i>Acres (Percent)</i>		
Early Structural	0 to 20	111 (1)	1,264 (17)	384 (5)
Young	21 to 50	851 (11)	682 (9)	682 (9)
Mature	51 to 80	453 (6)	562 (7)	594 (8)
	81 to 110	4,479 (59)	917 (11)	965 (13)
	111 to 150	1,286 (17)	3,603 (48)	4,381 (58)
Late Structural	151 to 300	0	152 (2)	174 (2)
Old Growth	301+	0	0	0
Non-Forested		398 (5)	398 (5)	398 (5)

The proposed action would create a total of 1,264 acres of early structural habitat in the project area over a 20 year period. By 2039, 17% of the project area would be in an early structural condition, much of which would persist for 10 to 20 years after the end of the implementation period (2039). The regenerated areas would be fully stocked (>70%) and include a diverse mix of tree species that are both healthier and more resilient to future disturbances than the existing condition. Changes in forest type may occur, as stands currently dominated by species with forest health concerns like black cherry, sugar maple, and beech, would likely regenerate more heavily to species with fewer forest health concerns, like red maple, yellow-poplar, and birch. Species with forest health concerns would still persist in the newly regenerated communities, although they would likely be less abundant.

The no action alternative would create a total of 384 acres of early structural habitat in the project area over a 20 year period. The creation of early structural habitat would be limited to previously approved activities (106 acres) and activities on private lands. No new activities would occur on federal lands. Most or all of the previously approved treatments would be in a mid-structural condition shortly after 2049 and there would be no early structural habitat present on federal lands. Unpredictable changes in forest type would occur as stands currently dominated by species with forest health concerns would continue to decline. Understories dominated by beech root suckers and other interfering vegetation (fern, grass and striped maple), would be further released by overstory tree mortality, and cast dense shade on the forest floor preventing other tree species from becoming established. The opportunity to naturally regenerate a younger cohort of trees may be lost prior to the next planning cycle due to insufficient and poorly distributed seed trees of diverse species.

Nonnative Invasive Plants - Direct, Indirect and Cumulative Effects

Nonnative invasive plant (NNIP) species occupy available growing space and use nutrients that would be used by desired native species. NNIP often lack their natural biotic controls to keep them in check. There is often a lag phase between first introduction and rapid expansion of NNIP. NNIP limit land uses now and in the future.

General effects of management actions in relation to NNIP are incorporated here by reference in the ANF FEIS (USDA- FS 2007b, pages 3-291 to 3-295). In summary, management actions that cause ground disturbance or opening-up of the forest canopy have the greatest potential to facilitate the introduction and spread of NNIP on the ANF. This analysis uses survey information for the presence of NNIP. (Project Record).

Nonnative Invasive Plants Proposed Action (Alternative 1) - Direct and Indirect Short-Term Effects

Proposed actions may create conditions conducive to the spread of NNIP because the life history characteristics of the documented NNIP species of concern within the project area (fast growth, age at maturity, ample seed production, and seed dispersal vectors) allows NNIPs to occupy a site more readily than native species. Also, areas where ground has been disturbed or vegetation has been trampled or removed creates an opening in which NNIP may become established. This disturbance or removal of overstory creates new sites with suitable growing conditions for shade intolerant NNIP. They may produce more fruit or seeds or have increased growth rates due to increased sunlight.

Some of the proposed vegetation management would produce temporary openings greater than 40 acres in size; because of the temporary nature of these openings, these would be short-term effects. Within 10 years after harvest, herbaceous and shrubby vegetation would become overtopped and begin to disappear from the stand. By the time the stand is 10 to 15 years old, the canopy would close again, reducing sunlight and growing space for shade intolerant species. Even though there would be an increase in the amount of early structural conditions in the project area in 2039, infestations of NNIP are not anticipated to significantly spread from management actions within the project area because of the temporary nature of open conditions created by timber harvest are short-term effects; infestations in the project area now are generally small and scattered with most NNIP being shade intolerant species; and management requirements and constraints include equipment cleaning provisions to help prevent the introduction and movement of NNIP from one area to another.

Nonnative Invasive Plants Proposed Action (Alternative 1) - Direct and Indirect Long-Term Effects

The proposed actions may create conditions that promote the spread of NNIP due to ground disturbances or vegetation removal. Some expansion and/or spread of NNIP may occur from road actions, however, steps would be taken to mitigate that impact by treatment of NNIP within road corridors and would be implemented as feasible and contracts would include equipment cleaning provisions to help prevent the introduction and movement of NNIP from one area to another.

Nonnative Invasive Plants Proposed Action (Alternative 1) - Cumulative Effects

Actions most likely to result in effects to NNIP within the cumulative effects area are vegetation management and road management. Non-federal actions most likely to result in effects to NNIP within the cumulative effects area include short-term effects from timber harvest on non-federal lands and long-term effects from roads and oil and gas development on all lands.

This increase in 0-20 age class (See Vegetation Effects) by 2039 is not anticipated to have a significant effect on spread or expansion of NNIP because of the temporary nature of these openings, the amount and scattered distribution of vegetation management actions, and unknown types of timber harvest that would occur on private lands.

Openings and non-forest habitat that currently exists within the cumulative effects boundary are results of past road building, oil and gas development, residential development and farming on non-NFS lands. Some permanent natural and constructed wildlife openings also occur in the project area. Based on historic levels, it is anticipated that minimal residential development would occur within the next 20 years. It is anticipated any forest conversion to non-forest would mainly be from private oil and gas development.

Based on the amount, location, timing and intensity of both private and NFS actions within the project area, the proposed actions are not expected to contribute to any adverse cumulative effects.

Nonnative Invasive Plants No Action (Alternative 2) - Cumulative Effects

The effects of no action are that existing NNIP infestations are anticipated to persist or spread. Proposed NNIP treatments and associated benefits would not be realized under this alternative. It does not meet the project's purpose and need.

Water Resources and Fishery Habitat - Proposed Action (Alternative 1) Direct, Indirect and Cumulative Effects

Proposed actions that influence water resources (water quantity, water quality and fisheries habitat) include: road construction, reconstruction, and maintenance, respectively, timber harvesting, herbicide application, fertilization, and large wood introduction. Previously approved actions in the project area include final harvests for shelterwood treatments approved in the Martin Run ROD (2005). Suppression treatments of hemlock wooly adelgid have also been approved in the East Branch Tionesta Creek watershed in the Tionesta Scenic and Natural Area. Hemlock are important for sustaining water quality and quantity and treatments approved to suppress the adelgid would help to preserve hemlock in this watershed. There are about 518.6 acres of riparian area on NFS lands, 194.4 acres on non-NFS lands and 217.5 acres of wetlands on NFS Lands and 59.8 acres of wetland on non-NFS Lands. Most wetlands occur along major streams.

Non-federal lands within the cumulative effects watershed boundary include 1864.1 acres of both industrial and non-industrial lands in the project area. Using harvest projections for private industrial and non-industrial lands from the Forest Plan FEIS (USDA-FS 2007b, Table 3-42, p. 3-177), projected estimates were made for non-federal lands in the cumulative effects analysis area.

Standards and guidelines, project design criteria, and Pennsylvania best management practices (BMPs) are designed to maintain and protect the high-quality cold water fisheries. Riparian corridors serve as buffers from actions and streams and protect streams from sediment and associated nutrients through a rough, porous forest floor and litter layer (Hornbeck and Kochenderfer 2000, Stuart and Edwards 2006).

Water Quality and Water Quantity: road construction, reconstruction and maintenance within 300 feet of streams – Proposed Action (Alternative 1) Direct and Indirect Effects

New road construction, road reconstruction, and hauling on roads within 300 feet of streams have the greatest potential to impact water quality and water quantity (USDA Forest Service 2007b).

Existing non-Forest Service system roads within 300 feet of streams converted to system roads would reduce sedimentation and runoff as roads are improved to standards. Placing limestone on roads within 300 feet from streams would reduce sediment loads compared to pit-run surfaced roads. Table 18 summarizes the effects to water quality and water quantity of proposed road treatments within 300 feet of streams.

Table 18. Effects of proposed road actions on water quality and water quantity

Measure	Proposed Action	No Action Alternative
Miles of existing road corridor added to the ANF road system within 300 feet of a stream	4.5 miles of existing road corridor would be added to the system and maintained, reducing several sediment sources.	No existing road corridors would be added to the system. Non-system roads would continue to add runoff and sediment to streams at some locations.
Miles of new road corridor added to the ANF road system within 300 feet of a stream	No new road corridors would be added to the system within 300 feet of a stream.	No new road corridors would be added to the system.
High Quality Road Surfacing and maintenance of NFS roads and proposed roads within 300 feet of a streams	5.2 miles of roads would be maintained and have surfacing added to reduce sedimentation and runoff.	No application of high quality surfacing and maintenance to reduce sedimentation and runoff.

**Water Quality and Water Quantity: road construction, reconstruction and maintenance within 300 feet of streams – Proposed Action (Alternative 1)
Cumulative Effects**

Based on the implementation of road construction actions in the proposed action, in combination with approved and future Forest Service and private actions, cumulative effects to water quality and quantity within the project area from road construction are expected to be minimal. Reductions in sediment and runoff to streams resulting from the proposed actions would have beneficial effects.

There may be some improvement in water quality and quantity where proposed road actions reduce the hydrologic connectivity of the road network to streams. Runoff and sedimentation concerns would be mitigated through implementation of Forest Plan standards and guidelines and best management practices, such as the addition of limestone durable surfacing and frequently diverting runoff into effective filter areas (Scheetz and Bloser 2008). The other projects identified within the cumulative effects boundary are not expected to have any road work completed within 300 feet of streams.

Private timber actions in cumulative effects analysis area drainages are expected within the next 20 years and may add to current negative impacts on water quality where new roads are constructed near stream channels. Pennsylvania best management practices (BMPs) for road construction would minimize effects to water resources (PADEP 2005).

Oil and gas development on ANF and private lands have constructed roads within 300 feet of streams within the cumulative effects analysis area. Over the next 20 years, additional roads are expected to be constructed on ANF and private lands in the cumulative effects analysis area. Pennsylvania BMPs set guidelines for road and well pad construction for oil and gas developers

to control erosion, sedimentation, and impacts to streamflow regimes. Protection of water resources would be accomplished by providing buffers from streams and wetlands and controlling erosion and runoff from roads, particularly at stream crossings. Although these conservation measures are effective at reducing effects, sediment and increased runoff could reach streams and wetlands wherever they are crossed. Sedimentation would be the greatest during construction and would lessen once areas are stabilized.

All road actions would be required to maintain or improve the water quality standards of the streams in the project area through the PA DEP anti-degradation requirement (PADEP 2016a).

Water Quality and Water Quantity: Basal Area Reduction – Proposed Action (Alternative 1)

Basal area reductions would occur through proposed and previously approved timber harvesting activities. Timber harvesting activities have the potential to impact water quality or water quantity. The effects to water quality and quantity are mitigated by Forest Plan standards and guidelines, as well as forestry best management practices (Pennsylvania Department of Environmental Protection 2005). Research has shown that removal of vegetation through timber harvesting can alter evapotranspiration rates and lead to changes in water quantity in watersheds. These altered evapotranspiration rates result in changes in streamflow. Research has indicated that measurable changes to stream flow are predicted to occur when more than 25 percent of a watershed changes from forested to regenerating forest in a 5 year period (Hornbeck and Kochenderfer 2000; Lynch and Corbett 1990). A study of northern hardwoods in the Catskill Mountains in New York found that reductions of basal area by more than 40 percent could also lead to a release of elevated $\text{NO}_3\text{-N}$ concentrations (Siemion et al. 2011). The increase in $\text{NO}_3\text{-N}$ is due to a lack of uptake of N by the vegetation that was removed. In watersheds where more than 68 percent basal area was removed, Aluminum concentrations sampled in the stream exceeded a known brook trout mortality threshold (Siemion et al. 2011). The value of 25 percent basal area reduction over a watershed serves as a goal for minimizing changes to water quantity, and is not a set threshold beyond which impairment would occur (Hornbeck et al. 1993, Hornbeck and Kochenderfer 2000, Siemion et al. 2011). If the 25 percent value were exceeded slightly, streamflows would increase slightly during the low flow seasons, which may be beneficial to water quantity. By minimizing the impacts to streamflow from timber harvest, water quality of streams would be maintained. Water quality impacts are not expected until more than 40 percent of the basal area is reduced from timber harvest (Siemion et al. 2011). The watersheds in this project area have been analyzed to determine where staggering of timber harvest activities is needed to meet this goal.

Shelterwood removal treatments were evaluated on 15 small watersheds within the project area to determine if basal area reduction would exceed 25 percent (Table 19). These watershed areas ranged from 66 acres to 2,105 acres with the median size of 271 acres. The Proposed Action proposes final harvests (shelterwood seed cuts followed by shelterwood removal cuts) on 772 acres, AMFC thinning for 39 acres, RUMFC for 242 acres, and two-aged harvest for 108 acres. Of the 15 watersheds, 9 watersheds had even-aged treatments on more than 10 acres.

Table 19. Project area small watersheds with shelterwood treatments that would result in basal area reduction, as proposed.

Small Watershed Name	Watershed Acres	Basal area reduction by proposed treatments (Acres)	Basal area reduction by watershed proposed treatments only in 2023 (Percent)
Cherry Run	2105	245.7	12.7%
East Fork	1761	26.0	5.0%
Hdwtr1 Martin Run	267	38.2	14.3%
Hdwtr2 Martin Run*	132	36.9	28.0%
Mead Run	545	4.1	9.8%
Rock Run	621	131.4	23.0%
Trib UNT Tionesta	88	4.3	4.9%
UNT EBT-Cherry**	97	8.1	37.2%
UNT Tionesta	388	6.5	2.3%
UNT1 SBTC	80	3.0	7.2%
UNT2 SBTC*	129	52.7	45.4%
UNT3 SBTC**	271	49.3	37.7%
UNT3 Tionesta Creek	66	6.2	9.4%
UNT4 SBTC	457	28.6	10.8%
West Fork	1341	72.3	5.7%
* Indicates that proposed action basal area reduction is greater than 25%, as well as from contributions from the previously approved projects and private basal reduction. / ** Indicates that the proposed action basal area reduction is not greater than 25%, but the contributions from the previously approved projects and private land harvests cause the BA reduction to exceed 25%			

Analysis of project percent basal area reduction shows that four small watershed would exceed 25 percent basal area reduction if all Forest Service treatments were implemented at the same time. These include Hdwtr2 Martin Run, UNT EBT- Cherry, UNT2 SBTC, and UNT3 SBTC. By keeping the amount of vegetation in a 0 to 5 year age class below 25 percent of the watershed will avoid causing additional impairments to water quality. Activities occurring in the five identified watersheds will follow this design criteria to avoid impacts to water quality or quantity:

In the identified small watersheds that were predicted to exceed 25 percent reduction in basal area, the following will occur:

- Small watersheds will be monitored by comparing the acreage of proposed harvest to the size of the watershed to ensure that forested land is composed of less than 25 percent in the 0 to 5 year age class (Maps 1 and 2, attached). The Forest Service will stagger treatments in these watersheds: Hdwtr2 Martin Run, UNT EBT- Cherry, UNT2 SBTC, and UNT3 SBTC.

Water quality and quantity is protected by restricting commercial harvesting within riparian corridors or no-cut zones around wetlands. Additional Forest Plan guidelines to maintain water quality and water quantity include minimizing soil disturbance and restrictions on whole-tree harvesting, leaving slash on-site, and retaining large woody debris. The Forest Plan encourages that slash, including tops and branches, is left on site to maintain about half of the nutrients and base cations in the stand.

In the Cherry Run project, vegetation treatments would be spread out over a 10 year period or longer, and considering that effects to water resources from vegetation actions last less than 5 years in Pennsylvania (Lynch and Corbett 1990), effects from basal area reduction would not likely be apparent in streamflow. With implementation of project design features, basal area reduction from timber harvest would not exceed 25% in the project area watersheds, and increases in streamflow (water quantity), or changes to water quality are not anticipated.

In some areas, timber harvest (even-aged management) would create temporary openings that exceed 40 acres in size. Forest Plan standards and guidelines (page 68) and project design criteria would be applied where openings exceed 40 acres. Because measurable changes to hydrologic resources are determined by percentage of the watershed harvested and not opening size, along with the application of Forest Plan standards and guidelines and project design measures, temporary openings that exceed 40 acres in size do not play a role in effects to water resources, unless it causes watersheds to exceed 25% basal area reduction in the 0 to 5-year age class. If the 25% value were exceeded slightly, streamflow would increase slightly during the low flow seasons, which may be beneficial to water quantity. By minimizing the impacts to streamflow by staggering timber harvests, water quality of streams would be maintained. Water quality impacts are not expected until more than 40% of the basal area is reduced from timber harvest (Siemion et al. 2011). The effects to water quality and quantity are mitigated by Forest Plan standards and guidelines, as well as forestry best management practices (PA DEP 2005).

Water Quality and Water Quantity: Basal Area Reductions – No Action (Alternative 2)

Basal area reductions would occur through previously approved activities and private oil and gas development. No water quality effects are anticipated as basal area reductions are less than the 25 percent threshold.

Basal area reductions would occur through previously approved actions and private oil and gas development. No water quality effects are anticipated as basal area reductions are less than 25% .

Water Quality and Water Quantity: Basal Area Reductions – Comparison of the Proposed Action (Alternative 1) and No Action Cumulative Effects

Table 20 shows basal area reductions for all cumulative effects actions in the project area by the proposed action and no action based on watershed impacts. These basal area reductions include oil and gas development, private lands, and forest road clearing.

Proposed Action

In the proposed action, the vegetation management activities would cause a basal area reduction of 9.4 percent of the CE area. Basal area would be reduced by an additional one percent by the implementation of previously approved treatments in Martin Run. Vegetation treatments would occur over about a 20-year period throughout project area watersheds. Some of the removal treatments would occur earlier in the 20-year period than other removal cuts due to the condition of the regeneration, which would separate the timing of the basal area reduction by at least 5 years.

Treatments on private and National Forest System lands would reduce basal area by no more than 10.7 percent in the cumulative effects watershed if all treatments were implemented in the same year. This is well below the 25 percent basal area reduction goal to avoid impacts to water quality and water quantity. Given that these treatments would be spread out over a 10 year period and considering that effects to water resources from vegetation activities last less than five years in Pennsylvania (Lynch and Corbett 1990), effects from basal area reduction would not be likely to increase stream flows.

At the maximum, assuming all land is harvestable, approximately 298 acres of final harvest and 410 acres of intermediate harvest could occur on private land within the next two decades.

Analysis of project percent basal area reduction shows that the following four small watershed would exceed 25 percent basal area reduction if all Forest Service treatments and private land treatments were implemented at the same time. These include Hdwtr2 Martin Run, UNT EBT-Cherry, UNT2 SBTC, and UNT3 SBTC.

GIS data indicate that 823 wells exist in the cumulative effects analysis area. Using Forest Plan FEIS assumptions to project future private oil and gas development, 436 new wells are expected to be drilled on the cumulative effects analysis area (includes private and state land) in the next two decades due to many shallow wells in this area being plugged. One deep shale gas well (Marcellus) is expected to be developed. Total acreage affected by this development (1400 acres), including road construction, is approximately 18.5 percent of the cumulative effects analysis area over the next twenty years. This is an overestimate of the level of disturbance given the high level of current development and the high quality of streams in this project area. Therefore, disturbance area that is impacting streamflow and water quality is reduced by half as canopy cover and disturbed areas revegetate along well roads over a five year period. Total acreage 2039 that could impact streamflow and water quality is reduced by half five years after development is completed and amounts to approximately 10.2 percent (776 acres) of the CE area.

No Action

In the No Action alternative, basal area reductions would occur only through natural processes, previously approved projects, harvesting on private lands, or oil and gas development. With the exception of oil and gas development, the amount of forested areas in a 0 to 5 age class would continue to decrease and water quantity and quality would remain constant. Basal area reductions for the No Action alternative range from 1.3 to 18.2 percent depending on the amount of private timber harvest and oil and gas development that occurs.

Table 20. Cumulative effects of basal area reduction on water quality and water quantity in the project area watershed

Proposed Action – Water Quality/ Water quantity	Acres	Basal area reduction (Percent)
Timber Stands 0 to 5 Age Class	37	0.5%
Previously Approved Shelterwood	76	1.0%
Basal Area Reduction Proposed	712	9.4%
New Road Construction	2	0.0%
Total FS Activity	827	10.9%
Oil and Gas Clearing- Existing condition	433	5.7%
Oil and Gas Clearing affecting streamflow 2029	634	8.4%
Oil and Gas Clearing affecting streamflow 2039	776	10.2%

Proposed Action – Water Quality/ Water quantity	Acres	Basal area reduction (Percent)
Private Lands Basal Area Reduction (5 year period)	98	1.3%
Total Basal Area Reduction in 2029	1522	20.1%
Total Basal Area Reduction in 2029- No OGD	888	11.7%
Total Basal Area Reduction in 2039- All even aged treatments implemented by 2034- Streamflow effects are dissipated	874	11.5%
Total Basal Area Reduction in 2039- All even aged treatments implemented by 2034- Streamflow effects are dissipated- No OGD	100	1.3%
No Action – Water Quality/ Water quantity	Acres	BA Reduction (%)
Timber Stands 0 to 5 Age Class	37	0.5%
Previously Approved Shelterwood	76	1.0%
Oil and Gas Clearing- Existing condition	433	5.7%
Oil and Gas Clearing Affecting Streamflow 2029	634	8.4%
Oil and Gas Clearing Affecting Streamflow 2039	776	10.2%
Private Lands Basal Area Reduction (5 year period)	98	1.3%
Max Total Basal Area Reduction in 2029- With OGD	1383	18.2%
Max Total Basal Area Reduction in 2029- No OGD	174	2.3%
Total Basal Area Reduction in 2039- All previously approved even aged treatments implemented by 2034- Streamflow effects are dissipated	1307	17.2%
Total Basal Area Reduction in 2039- All previously approved even aged treatments implemented by 2034- Streamflow effects are dissipated- No OGD	98	1.3%

Water Quality: Fertilizer Treatments- Proposed Action (Alternative 1) Direct and Indirect Effects

Fertilizer treatments have the potential to leach base cations to move out of the soil profile, potentially reducing the buffering capacity of soils against acid rain and increase acidity in streams. Fertilizer treatments are proposed on 149 acres (2%) of the NFS land in the project area. Since this treatment is only implemented as needed, less than this amount is likely to be treated. As discussed in the ANF 2007 FEIS (pages 3-35 to 3-36), the Forest Plan guidelines minimizes risk to water quality by applying fertilizer during the growing season for rapid vegetation utilization and avoiding application before rain storms. When these have been used, the growth response in vegetation indicates that the fertilizer is utilized before it has a chance to leach into the groundwater or runoff. Fertilization is not expected to impact water quality.

Water Quality: Fertilizer Treatments- No Action (Alternative 2) Direct and Indirect Effects

No fertilizer treatments would occur. There would be no effects.

Water Quality: Fertilizer Treatments- Proposed Action (Alternative 1) Cumulative Effects

It is unlikely that fertilizer treatments would have cumulative effects as they are prescribed to be used only as they are needed for the regeneration of trees. As discussed in the ANF 2007 FEIS

(pages 3-35 to 3-36), Forest Plan guidelines minimize risks to water quality by applying fertilizer during the growing season for rapid vegetation utilization and by avoiding application before rain storms. When used, the growth response in vegetation indicates that the fertilizer is utilized before it has a chance to leach into the groundwater or runoff.

Water Quality: Herbicide Treatments- Proposed Action (Alternative 1) Direct and Indirect Effects

Herbicide treatments are proposed on 1121 acres (19.6 percent) of the project area for reforestation and up to 700 acres (0.5 percent) for NNIP species treatments. They are expected to have no effect on water quality or water quantity. The majority of these treatments are located away from streams and wetlands and these resources will be protected through application guidelines, low application rates, and herbicide buffers identified in the Forest Plan (USDA-FS 2007a, pp. 55–58). Where treatment of NNIP species occurs, these herbicide treatments may be beneficial for establishment of native vegetation that promote infiltration and stabilize soils to protect against erosion. Manual and mechanical herbicide treatments are expected to have no effect on water quality and water quantity because dry or flowing streams, tributaries, water bodies, seeps, springs, and wetlands would be protected through buffers identified in the Forest Plan (USDA-FS 2007a, pp. 55-58). These buffers would be applied to all Waters of the United States (and the Commonwealth) and they are designed to prevent herbicides from entering these waters and to protect aquatic resources and human health. These standards and guidelines are based on the Human Health Risk Assessment completed for the Forest Plan FEIS, Appendix G (USDA-FS 2007d). Appendix A of the Forest Plan (USDA-FS 2007a, pp. A43-A45) contains additional information on site selection, herbicide selection, and application methods and rates. Four years of water testing on the ANF found no detectable levels of herbicide downstream from areas treated to achieve reforestation objectives (USDA FS 1989, 1990, 2002, 2016).

Visual monitoring of herbicide damage to vegetation is conducted within these buffers. It does not appear any herbicides have entered water courses based on this vegetation monitoring, indicating that buffer widths are sufficient to prevent herbicides from entering any waterways. See FY2008–FY2013 Allegheny National Forest Monitoring and Evaluation Report, pp. 185-191. The Forest Plan FEIS discusses the effects of herbicides on water quality with the implementation of Forest Plan standards and guidelines, and its analysis on pages 3-33 and 3-35 is incorporated by reference. It finds that water quality will be maintained through water resource buffers, excluding treatment and/or equipment from buffer areas, and restricting application during wind and rain to avoid drift or runoff.

Water Quality: Herbicide Treatments- No Action (Alternative 2) Direct and Indirect Effects

No herbicide treatments would occur. There would be no effects.

Water Quality: Herbicide Treatments- Proposed Action (Alternative 1) Cumulative Effects

Cumulative effects on water quality from herbicide treatments are not expected in either alternative. In the Proposed Action, herbicide applications are proposed on 32 percent (up to 1821 acres) of the project cumulative effects area. The majority of these treatments are located away from streams and wetlands. Streams and wetlands will be protected through application guidelines, low application rates, and herbicide buffers identified in the Forest Plan (USDA-FS 2007a, pp. 55–58).

Water Quality, Water Quantity and Fishery Habitat: Large Wood Introductions -

Proposed Action (Alternative 1) Direct and Indirect Effects

The Proposed Action proposes to fell 185 trees (large wood introductions) per mile into streams and onto floodplains to improve aquatic habitat diversity, trap sediment, and slow flood flows. This is proposed for approximately 25.6 miles of streams but would only occur where large woody debris is lacking and where trees are available to be felled without reducing stream shading. The addition of large wood to streams helps create quality pools, slow flood flows, and store sediment and organic debris. The improvements are important for aquatic organism survival and propagation. This riparian improvement prescription was analyzed in the 2007 Forest Plan FEIS (USDA-FS 2007b, pages 3-29 to 3-31, 3-40 to 3-41, 3-47). Streams were surveyed in this project area and were found to have insufficient quality pools and large wood for providing quality stream habitat. Based on these aquatic habitat inventories and expected needs in streams, it is anticipated that approximately 170 trees per mile would need to be added into streams to meet aquatic habitat goals.

Restoration work is proposed on 300 feet of South Branch Tionesta Creek that will involve the placement of trees and rootwads using excavators. This project will slow the erosion of a steep bank along the stream and protect a section of the North Country Trail. The large wood projects will temporarily disturb soils during installation of large wood structures. Soils will be uncompacted on access trails and are expected to restore quickly. When rootwads are harvested, loose soil will be removed from them to reduce the amount of soil introduced to the stream. The rootwads placed in the stream may introduce a small amount of sediment, but the rootwads are expected to provide greater benefits than negative impacts, including stabilizing soil that moves through the stream system. This large wood projects will have beneficial effects on the aquatic habitat by improving channel diversity. The rootwads provide a variety of habitat for young of year species.

Restoration of large wood levels would, in the short and long term, indirectly benefit juvenile and adult fish by creating larger lateral pools for rearing and resting and additional side channel overwintering habitat. Montgomery et al. (1995) documented that as the frequency of large wood increased within stream channels, both pool frequency and depth increased. In addition to increased pool frequency and depth, restoration of large wood levels benefits adult and juvenile trout by increasing hiding cover and retention of other organics (Cedarholm 2000). Large wood restoration would also provide roughness elements that would help regulate bed load movement of the stream channel and fine sediment deposition on the flood plain through time. Log complexes would also assist in the regulation of water velocity and infiltration of water on floodplains. Large wood in the streams will also help disperse flood flows out onto the floodplains, which in turn will allow for infiltration and increased base flows in the summer.

Water Quality, Water Quantity and Fishery Habitat: Large Wood Introductions - No Action (Alternative 2) Direct and Indirect Effects

Without the addition of large wood, stream improvements and their associated benefits would take substantially longer. Full recovery may take up to 50 years in streams where riparian stands are in good condition, and would require even more time in areas where conditions are poor.

Water Quality, Water Quantity and Fishery Habitat: Large Wood Introductions - Proposed Action (Alternative 1) Cumulative Effects

There would be beneficial cumulative effects to water quality or water quantity from the addition of large wood to streams in the project area. The addition of large wood to streams helps to create quality pools, slow flood flows, and store sediment and organic debris. The improvements are

important for aquatic organism survival and propagation. These benefits to streams could take as long as 50 years to occur if these actions were not implemented.

Summary of Effects – Alternative 1

Implementation of Forest Service activities would be consistent with State and Federal laws and Forest Service regulations and handbooks. Forest Plan standards and guidelines and application of Pennsylvania BMPs during project implementation would ensure that effects from the project would have no adverse effects to water resources.

Road maintenance is likely to occur at a faster rate under the proposed action as compared to the no action alternative, because funds would be generated from timber sales to improve road condition. Therefore, there would be a greater reduction in sedimentation and runoff. New road construction is not expected to impact streams or wetlands because the roads have been laid out away from these resources.

The proposed activities and the previously approved activities are not anticipated to cause measurable changes to water quantity of streams or ground water. Given the sequence of the shelterwood and overstory treatments and the staggering of implementing treatments, basal area reduction would not exceed 25 percent. Even if the 25 percent value were exceeded slightly, streamflows would increase slightly during the low flow seasons, which may be beneficial to water quantity. By minimizing the impacts to streamflow from timber harvest, water quality of streams would be maintained. Water quality impacts are not expected until more than 40 percent of the basal area is reduced from timber harvest. Analysis of project percent basal area reduction shows that four small watershed will exceed 25 percent basal area reduction if all Forest Service and private vegetation treatments were implemented at the same time. The following watersheds will require district coordination to ensure that treatments are staggered so that no more than 25 percent of the watershed forest cover is in a 0 to 5 age class: Hdwtr2 Martin Run, UNT EBT-Cherry, UNT2 SBTC, and UNT3 SBTC.

The proposed felling of 185 trees per mile added to the streams within the project area would help disperse high flows onto floodplains, create pools and cover, and trap debris and sediment, which is beneficial to aquatic organisms.

Project design features, Forest Plan standards and guidelines, and Pennsylvania BMPs are expected to maintain or improve water quality and quantity in this project. All activities would be required to maintain or improve the water quality standards of the streams in the project area through the PADEP's anti-degradation requirement (PADEP 2016a).

Recreation and Scenery Direct, Indirect and Cumulative Effects

The information is summarized from the Recreation report prepared for the Cherry Run Project. The full report is available in the project file.

The recreation analysis is based upon two indicators for measuring effects: (1) whether the actions in each alternative would be consistent with the Recreation Opportunity Spectrum (ROS) settings, and (2) whether the actions proposed in each alternative would alter existing recreation use actions and their patterns within the project area (USDA Forest Service 2010).

There are no developed recreation facilities in the Cherry Run Project Area. The area is used primarily for dispersed recreation, including dispersed camping, fishing and hunting. Two trails are in the project area: the North Country National Scenic Trail (NCNST) and the Twin Lake Trail.¹⁵

¹⁵ Approximately 7.5 miles of the NCNST and 1.3 miles of the Twin Lakes Trail is within the project area.

Scenic Integrity is generally Low throughout much of the project area, with a core of Very Low east of SR 948 due to extensive oil and gas development.

State Route (SR) 666, SR 948, and the Henry's Mill Road are Concern Level 1¹⁶ travelways that dissect the project area, with significant amounts of private land along these corridors. Views along these roads include a mix of residential and agricultural development and forest. Views of Forest Service-managed lands are fairly limited along these travelways.

Trails: Approximately 7.5 miles of the NCNST travels east to west through the area and is a Concern Level 1 travelway. East of State Road (SR) 948, the NCNST exits the TSA amidst second and third growth timber impacted by tornadic activity. As the trail travels west to SR 948, it utilizes an old logging road and enters an area of heavy oil and gas development.¹⁷ West of SR 948, the trail travels through a mix of oil and gas development and some dense standing timber. Throughout these sections, there is substantial beech brush along the trail.¹⁸

Overall, 1.10 miles of the 7.5 miles of North Country trail in this project area will have some kind of treatment occur along it. No project work was done along this trail in the previously-approved Martin Run Project.

Twin Lakes Trail is a Concern Level 2 travelway on the east side of the project area. The trail crosses harvest units 308012, 308020, 303004, and 308005. It crosses into the Tionesta Scenic area and a dense hardwood canopy of poles and small sawtimber with some tornado-remnant larger trees. The trail ends at its junction with the North Country National Scenic trail.

Overall, 1.3 miles of Twin Lakes trail runs through the project area, 0.3 miles of which have harvest activities proposed along them. No project work was done along this trail with the previously-approved Martin Run Project.

Waterways: South Branch Tionesta Creek which travels south to north through the middle of the project, and East Branch Tionesta Creek, which forms part of the north boundary, are Concern Level 2 waterways for scenery.

Tionesta Scenic and Research Natural Areas: These areas form the eastern boundary of the Project Area. Scenic Integrity was labeled as High in the Tionesta Scenic Area when the 2007 Forest Plan was analyzed and published. While both areas were designated because of very large diameter old original growth trees, this timber is largely gone because of tornadoes in 1985 and 2003, as well as other straight-line high-wind events, and insect and disease infestations. Both areas are evolving into young pole-sized to small sawtimber-sized stands (trees 8 – 14 inches in diameter), gradually thinning in density as overtopped lower and intermediate understory trees die out. A few large remnant trees may still exist in areas where trees of the pole to small sawtimber size at the time of the tornadoes have survived and continued to grow. Views of large diameter mature trees with a multi-layered understory have given way to a much younger age class with scattered small to large sawtimber trees of a variety of ages. The scenic value of the Tionesta Scenic Area in the eyes of the general public and visitation have decreased with the size of the trees. Scenic Attractiveness, at one time rated "Distinctive" has changed to "Common" because of this. Scenic Integrity is now considered Low through much of the Scenic Area and the western third of the Research

¹⁶ Scenic Integrity Levels (SIL) are defined by Concern Levels with Concern Level 1 ranking the highest SIL.

¹⁷ East of SR 948, the NCNST travels through stand 309015, nicks the corner of stand 309014, and runs along the southern edge of 3019044. This distance is less than 2/5 of a mile.

¹⁸ West of SR 949, the NCNST skirts the southern/western boundary of stands 303021, 303013 and 303036. The section of trail at the bottom of stands 303013 and 303021 is about 7/10 of a mile in length.

Natural Area, which is the section against the project Area boundary. There are no scenic overlooks from within these areas looking out over the project area, and no scenic overlooks within the project area that look into the Tionesta Scenic Area or Tionesta Research Natural Area.

Recreation Opportunity Spectrum

The entire project area is in the Roaded Natural ROS category under the 2007 Forest Plan.

Recreation and Scenery– Proposed Action (Alternative 1) Direct and Indirect Effects

Under the action alternative, a combination of Even-Aged and Uneven-Aged Vegetation Management treatments and Understory Vegetation treatments would be used to increase forest health and resilience.

Recreationally, the Proposed Action could have some short and/or long term effects on the kind of dispersed recreation found in the area. There are no proposals in this EA to change any of the camping sites, trails, or access, but the vegetation management could alter the experience in some recreational pursuits. Increased availability of browse, soft mast species such as rubus, and other grasses and forbes could be beneficial to some hunted or trapped game animals, increasing the possibility of hunter success. Addition of structures to streams, in addition to improved culverts and road surfacing, should result in a healthier stream dynamic and angler enjoyment.

For scenery, the Proposed Action, the vegetation management has the potential to affect the character of the landscape. The feature of the landscape character is natural-appearing forest vegetation which, because of the history of the area, is considered to be a mature forest of 80-110 years in age, few breaks or gaps in the canopy, and with a generally open understory. The greatest impact to this landscape character is from harvest activities that remove large numbers of trees, creating openings for sunlight on the forest floor. The prescription for overstory removals for the 772 acres that makes up the Proposed Action would increase the size of temporary openings, many of which would be over 40 acres. The pattern of vegetation would be changed because of the openings and additional sunlight. This would affect the form and line of specific views, as well as the perceived color of vegetation. Treatments such as overstory removal cuts and shelterwood seed cuts followed by overstory removal treatments would remove the impact of dead and dying trees on landscape character. Reforestation treatments such as herbicide application, site preparation, fencing, release, planting, and fertilizing improve the stand with long term benefits to visual quality.¹⁹

Direct Effects –Stands west of SR 948 on the FR 413 system will be thinned or will receive group selection treatments to restore understory conditions more typical of mature forest stands. This area has a high level of OGM development and the gate on FR 413 is rarely closed although the road is not considered open to public traffic. Driving for pleasure is rare in this area.

Treatments along FR 413 consist of thinning in 2 stands (302011 and 302030) near the intersection with FR413B and group selection harvest in stand 302037. None of these stands are along the North Country trail, and trail users may or may not hear the sound of harvest activities,

¹⁹ Standards and guidelines for scenery management are outlined in the Forest Plan on pp.62-64. The Allegheny National Forest Scenery Implementation Guide is used as a reference for SILs and includes a number of design features. These design features are provided in the Recreation Specialist report. The Forest Plan and Implementation Guide allow for some deviation from these design features, particularly for the attainment of watershed or wildlife habitat restoration objectives. Although the Cherry Run Project has watershed restoration objectives, it is not believed that a deviation from design features is needed. If deviations are required, they will be noted in the Decision Notice issued for this project and/or through documentation at the implementation phase of the project.

depending on the timing of those activities. Trail users may be able to see some of the openings made by removing groups of trees in 302037, but this vantage point will be from an OGM road that the trail briefly follows.

The thinned stands, 302011 and 302030, will generally not be seen by trail users. Except for road use, there are no viewpoints into these stands. Group selection also occurs in stands 303013, 303021, and 303036. These stands are on FR 413B and 413BA, and the North Country trail either follows the lower edge of the stand (303013) or goes through the bottom portion of the stand (303021), following the location of an old woods road and an old OGM utility corridor. Except for the roads and the trail, there are no viewpoints into these stands. Trail users may see some of the openings created by harvest activities, particularly in 303021, however many places along the trail in this area are open, either because of old OGM development where trees have not grown back or because of seeps along the hillside. Beech brush already encroaches into the trail corridor in the section of trail in 303021 and it is not expected that adding openings will change or increase that encroachment. Herbicide treatments to these openings may actually assist in knocking back the beech brush and decrease the amount of maintenance needed. If these treatments are done in the fall, when trees are drawing fluids and nutrients back into their roots for dormancy, the treatments should be more effective and less noticeable on the landscape.

East of SR 948, the North Country National Scenic Trail goes through stands 309014, 309015, and 3019044, which will be receiving shelterwood removal treatments, however a 100 foot buffer (both sides of the trail) will be implemented to retain shade on the trail and provide some visual screening. Trail users of the North Country trail would have a view of young, regenerating trees and scattered reserved clumps of older timber outside the 100' buffer. There may be an increase of understory within the buffer, further blocking the view. During the normal season of use, which is generally while leaves are present, visibility more than 100' from the edge of the trail would drop quickly as young trees grew.

The Twin Lakes trail goes through stands 308004 and 308005, which will receive shelterwood removal treatments. The treatment around the trail to mitigate hazards will be similar to the strategy employed along the North Country National Scenic Trail, and there is a 50' buffer on each side of the trail along the Twin Lakes trail. The 50' buffer would mitigate some of the visual impacts of vegetation management along the trail. In addition, since the area this trail traverses already has significant OGM development, stands of thick young timber would disguise some of this industrial look. There could be some benefit to herbicide treatments to interfering vegetation along Twin Lakes trail.

The treatments proposed in this EA would preserve landscape character by retaining the black cherry and other species common to the Allegheny Hardwood Mix. Other mechanical regeneration and release actions would promote growth and good structure, supporting the landscape character. Treatments in areas of Low SILs would have minimal impact on landscape character, and those in areas of Very Low SILs would have marginal impact. In the long-term, they would increase forest health and speed regrowth, so scenic qualities of the forest would recover faster than the No Action alternative.

Watershed improvements will temporarily disrupt the use of the Cherry Run trailhead to the North Country Scenic Trail, and use of the trail itself in this area until work is completed. Recreational fishing opportunities will improve and increase as natural stream structure and function is restored. Campsites located along FR 148 and 148A may be occupied more frequently, such as mid-week, or by larger groups. Improvement of the habitat may cause an increase in dispersed campsites north of FR 148 along the trail because the trail provides easy access and the topography of this area is relatively flat.

Indirect Effects – New openings would be combined with existing openings and currently planned openings, creating six blocks where total openings exceed 40 acres. These blocks vary in overall size, but since the treatments take place over the 20 year implementation period, the impact will be dispersed through time and be seen as a gradual increase of openings which will grow up and close as new temporary openings are made. This will provide successive age classes and a transitioning forest scene.

Recreation and Scenery– Proposed Action (Alternative 1) Cumulative Effects

The cumulative effects include impacts from the 2003 Martin Run Project, other projects in the Schedule of Proposed Actions (SOPA) and oil/gas activities. The treatments associated with the Cherry Run Project may, in the long-term, improve the health of the forest more quickly than the existing regimen. This will support and preserve the Roaded Natural ROS setting. If commercial demand for oil and gas increases in the future, activities in the lease areas could impair the Roaded Natural ROS setting.

Other actions to be considered in the cumulative effects include:

Projected oil and gas development for shallow wells between 2018 and 2038 are 349 wells. One Marcellus shale well is projected by 2039, for a total of 10 acres. Effects could total as much as 1400 acres converted from forest cover.

Recreation and Scenery– No Action (Alternative 2) Direct and Indirect Effects

The previously approved activities (Martin Run EA) for the Cherry Run Project Area would continue as planned. The project area is experiencing high mortality and crown dieback of black cherry, white ash, and American beech. The vegetative component of the landscape character is defined by the Allegheny Hardwood Mix, which is unique because of the predominance of black cherry. This is usually an early successional species that does not carry into mature stands of the Northern Hardwood type because it is often shaded out by more tolerant maples. In this alternative, large game species would be attracted to both temporary and permanent openings for forage opportunities.

Natural processes may increase the number and size of pockets of dead and dying trees, large openings in the canopy, and stands with high densities that may lack age class diversity. Tree mortality could outpace regeneration over time. The characteristics of the Roaded Natural ROS would not be impacted because changes in stand structure would be following a natural trend for timber that is aging out or affected by insects and disease. Trends of expanded damage in the Cherry Run Project Area would probably not limit access to the trail or trailhead; reduce opportunities for isolation; or increase social encounters in undamaged areas (crowding); but could negatively impact recreation activities dependent on the age class of the surrounding vegetation. Very few activities in this area are dependent on the wide-view scenic resource. As noted above, most views of the area are of a shortened foreground nature, with wide views tending to be from SR 666 and SR 948 in areas where topography or private land use is such that a wider view exists or exist off OGM roads at the higher elevations if they exist at all. Most activities are focused on a very short foreground view, as in dispersed camping and fishing along South Branch Tionesta Creek or hiking on the North Country or Twin Lakes trails. Activities from the Martin Run Project are not visible from the trails or known campsites.

Recreation and Scenery– Summary of Effects

Both the No Action and Proposed Action Alternatives will create short-term impacts to ROS category and recreation use and pattern. The direct and indirect impacts are manageable and limited.

For the Proposed Action alternative, availability of primitive camping within the Cherry Run Project area may increase as areas of commercial timber harvest are increased and watershed habitat is improved. A potential accelerated regeneration of forest lands would further diminish impacts to ROS and recreation use and pattern. Increased logging activities could affect access to certain areas. Because these effects are not highly concentrated spatially or time-wise within the project area, they are expected to be reasonable and manageable.

The narrative above indicates that the Proposed Action may create short-term impacts to the SILs and landscape character. The direct and indirect impacts are in pursuit of the long-term management and regeneration goals of the project, which would secure the health and stability of the scenic resource into the future.

For the Proposed Action, the greatest impacts to the scenic resource are for views from trails in the project area. There are limited impacts to scenic resources as viewed from nearby State Routes 666 and 948, both Concern Level 1 travelways. A potential accelerated regeneration of forest lands would offset negative impacts to SILs and landscape character from the treatments, especially creation of the large openings in the canopy, by encouraging a faster rate of regrowth.

Cumulative effects of the Proposed Action would also be effectively mitigated by the design features listed in the mitigation section of this EA, and thus, this alternative would be consistent with the forest plan.

Cumulative effects of this and other projects will be manageable and limited with implementation of effective mitigation strategies. By 2039, 17% of the project area would be early structural habitat in this alternative, as opposed to 5% in the No Action Alternative. Projected permanent forest cover loss from oil and gas development by 2039 could be at 1400 acres or 18% of the project area.

Summary of Environmental Effects

In general, the effects of the treatments will not result in permanent changes to the ROS classification, the recreation opportunities or recreation patterns. Careful monitoring of effects and active management should mitigate short-term impacts on these indicators.

Table 21 – Summary Comparison, Environmental Effect to Recreation Resources

Resource Element	Indicator/Measure	Alt 1	Alt 2
Recreation	Do the treatment strategies maintain the Roaded Natural ROS in the project area?	The remaining treatments from the Martin Run Project may cause short-term loss of the Roaded Natural ROS in treated areas but these conditions can be mitigated by careful management.	The treatments may cause short-term loss of the Roaded Natural ROS in treated areas but these conditions can be mitigated by careful management. Total acreage of some treatments within the project area may expand their impact on the Roaded Natural ROS setting. Enhanced regeneration may reduce impairment of the Roaded Natural ROS.

Table 21 – Summary Comparison, Environmental Effect to Recreation Resources

Resource Element	Indicator/Measure	Alt 1	Alt 2
	Do the treatment strategies restrict the number or type of recreation activities in the treatment area?	The remaining treatments from the Martin Run Project may cause short-term impairment to the number and type of recreation activities in treated areas but these conditions can be mitigated by careful management.	The treatments may cause short-term impairment to the number and type of recreation activities in treated areas but these conditions can be mitigated by careful management. Treatments may be selected for minimal impact to specific areas. Total acreage of some treatments within the project area may expand their impact on the number and type of recreation activities. Enhanced regeneration may reduce impairment. Certain activities may expand the type or quality of the recreation experience.

Cultural Resources

Within the Cherry Run project area, there are no districts, sites, highways, structures, or objects listed or eligible for listing, in the National Register of Historic Places or that the proposed actions may cause loss or destruction of scientific, cultural, or historical resources. No significant effects to cultural resources are anticipated with the proposed actions. Any sites of cultural interest identified within the proposed action locations would be flagged and avoided.

If cultural resources, including human remains, are discovered during project implementation, work would immediately cease, the affected site secured, and the District Ranger and Archeologist would be notified immediately (Archaeological Resources Protection Act of 1979, 16 U.S.C. §§ 470aa–470mm; Native American Graves Protection and Repatriation Act, 25 U.S.C. §§ 3001-3013).

For this project, the ANF would engage in government-to-government consultation with the 14 Tribes that have historic ties to the area. The Forest Service is presently consulting with the State Historic Preservation Office (SHPO), in accordance with section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 Code of Federal Regulations Part 800) of the Advisory Council on Historic Preservation. All proposed management actions in this project will be reviewed by SHPO for potential effects to cultural resources.

Threatened, Endangered, and Sensitive Species

ANF Federally listed Endangered Species Act (ESA) species

Potential effects of the proposed action on endangered or threatened species or their habitat that has been determined to be critical under the Endangered Species Act (ESA) of 1973 were analyzed in Biological Assessments (Project Record). Currently, there are nine federally listed species under the ESA for the ANF. While the Indiana bat was considered in the Forest Plan

(USDA FS 2007a), available information indicates that this species does not occur on the Forest. Based on ANF, Indiana bat summer and winter habitat survey efforts, the U.S. Fish and Wildlife Service (USFWS) revised the Indiana bat range map for Pennsylvania (Project Record) to reflect that the distribution of potential Indiana bat summer and winter habitat; it does not include the ANF (USFWS 2014).

ESA Determinations – Proposed Action (Alternative 1)

Table 22 provides the determinations for each of the ANF ESA listed species.

Table 22. ANF ESA listed determinations within the Cherry Run project area with implementation of the proposed action.

ESA species	Determination
Clubshell, northern riffleshell, rayed bean, snuffbox, sheepnose, rabbitsfoot, northern bulrush and small whorled pogonia.	“No Effect”
Northern long eared bat.	“May Affect, Likely to Adversely Affect”

A "May affect, likely to adversely affect" determination means that the listed resource is likely to be exposed to the action or its environmental consequences and would respond in a negative manner to the exposure. Formal Consultation with the U.S. Fish and Wildlife Service (USFWS) is required if an action is likely to “adversely affect” listed species and designated critical habitat. This project would undergo consultation with the USFWS and any responses received from the USFWS would be applied to the project.

ESA Determinations – No Action (Alternative 2)

The determinations for ANF ESA listed species is: **“No Effect”**.

ANF Regional Forester Sensitive Species (RFSS)

The Forest Service Region 9, Regional Forester developed the sensitive species list for plants and animals for which population viability is a concern. Species included as RFSS include USFWS candidates for listing under the ESA, species delisted within the last 5-years under the ESA, and species ranked by NatureServe as G1-G3, T1-T3, and N1-N3.

In January, 2018, the Regional Forester approved an updated RFSS list. On the ANF, 70 species are listed. The effects of the proposed actions on RFSS species were evaluated in Biological Evaluations (Project Record) for the project area. RFSS with **“No Impact”** determinations from the proposed action in the Biological Evaluations are not discussed in this EA. Table 23 provides the RFSS with occupied or suitable habitat in the project area.

Table 23. ANF RFSS with occupied or suitable habitat within the Cherry Run project area.

Plant or Animal Group	RFSS species
Amphibians	Eastern hellbender and four-toed salamander.

Table 23. ANF RFSS with occupied or suitable habitat within the Cherry Run project area.

Plant or Animal Group	RFSS species
Birds ²⁰	Northern goshawk and Swainson's thrush.
Invertebrates	Green-faced clubtail, harpoon clubtail, Maine snaketail, mocha emerald, monarch butterfly, mustached clubtail, rapids clubtail, sable clubtail, ski-tipped emerald, and zebra clubtail.
Mammals	Little brown bat, northern flying squirrel and tri-colored bat.
Plants ²¹	American ginseng, autumn coralroot, Bartram shadbush, bluntlobe grapefern, boreal starwort, bristly black currant, Canada yew, cranefly orchid, dwarf/lesser rattlesnake, great-spurred violet, Hooker's orchid, lance grapefern (triangle moonwort), little grapefern (least moonwort), mountain woodfern, red baneberry, showy orchid, and swamp red currant.
Reptiles ²²	Timber rattlesnake and wood turtle.

RFSS Determinations – Proposed Action (Alternative 1)

For the RFSS species listed in Table 24 with occupied and suitable habitat, the determination reached is: **“May Impact Individuals, but would not cause a trend toward federal listing of this species or loss of viability”**. For RFSS with no suitable habitat (Project Record), the determination reached is **“No Impact”**.

RFSS Determinations – No Action (Alternative 2)

If no action was implemented for RFSS species with occupied and suitable habitat, the determination reached is **“No Impact”**. Habitat would likely be affected due to tree mortality and changes in the landscape.

ANF Forest Plan Species with Viability Concerns (SVE)

Species with viability concerns (SVE), identified in the Forest Plan documents that are not listed as ESA or RFSS are addressed in Table 25. Potential effects to SVE are provided in the ANF Forest Plan (pages D-1 to D-4).

²⁰ Determination for Northern Goshawk is “no effect.”

²¹ Determination for the following plants is “no effect”: awned sedge, boreal bog sedge, butternut, checkered rattlesnake plantain, creeping snowberry, fairywand, large toothwort, queen-of-the-prairie, rough cotton-grass, stalked bulrush, strict blue-eyed grass, twining screwstem, and white trout-lily

²² Determination for the wood turtle is “no effect.”

Table 24. Proposed action summary of habitat changes for ANF species with viability concerns.

SVE	Change in habitat by implementing the proposed action
Black-throated blue warbler, raven, great blue heron, red-shouldered hawk	Nesting and roosting habitat will remain following implementation of the project. No known nests occur within the project area. Should a nest be discovered during implementation, a Bradford District Biologist should be contacted as soon as possible and conservation measures will be implemented to protect the nest and reduce disturbance to individuals.
Cerulean warbler	Oak type preferred habitat is not proposed for treatments. Habitat conditions would remain unchanged.
Henslow's sparrow	No suitable habitat is available in the project area.
Osprey	Suitable habitat would remain available in the project area.
Jefferson salamander, eastern box turtle	Suitable habitat would remain. Forest Plan standards and guidelines would be implemented for riparian areas, wetlands, floodplains and vernal pools.
Coal skink	This small reptile is generally found in oak type habitat and rocky soils. Some of the proposal area consist of oak trees and is rocky. Individual skinks may be impacted through the temporary activities proposed. No change in habitat is anticipated. Sunlight gaps may improve basking for skinks.

Migratory Birds

A variety of migratory birds including forest-interior birds, birds of conservation concern, and waterfowl potentially use the habitats affected by the proposed actions. Birds use these habitats for foraging, resting (stopover), sheltering, breeding, and nesting. Temporary and permanent losses of habitat and the general disruption to behavior created by the use of equipment and/or changes in habitat types may potentially result in the displacement of migratory birds. Some of these areas would have older forest converted to younger forest. Displacement and avoidance may potentially impact bird migration, nesting, foraging, and mating behaviors. Behavior changes, including nest abandonment, combined with the loss and/or conversion of habitats as well as direct impacts from project implementation actions would potentially increase the amount of stress, injury, and mortality experienced by individual migratory birds. Forest Plan standards and guidelines would be implemented for any RFSS listed migratory bird nests. In addition, Site preparation, cleaning and weeding treatments that remove saplings from forested stands should occur outside the songbird nesting season (April 1 to June 30) (Forest Plan, page 81).

Topics not Specifically Analyzed at the Cherry Run Project-Level

During scoping, some topics were raised that were analyzed in other project documents and/or are more appropriately analyzed at the program-level (e.g. Forest plan level analysis). In some cases, this previously analysis is incorporated, by reference, as indicated below.

Air Quality and Climate Change

During the scoping period, a comment was received that requested analysis of the air quality and carbon sequestration impacts of the proposed vegetation management activities. Because of the difficulty in measuring project-level air quality and carbon sequestration impacts (relative to the larger regional, national and international context), the most appropriate scale for this analysis is at the programmatic (forestwide) scale. For air quality, the 2007 Forest Plan includes an analysis of the air quality effects from implementing management activities in the Plan (Final EIS, pp.3-52-3-63)²³, including vegetation management activities such as the Cherry Run Project.

In addition, a recent vegetation management project – Bradford Restoration²⁴ – did include a project-level analysis of air quality. That analysis (available here: <https://www.fs.usda.gov/project/?project=47650>) is incorporated by reference.

See also the discussion below for compliance with the Clean Air Act.

Climate change has been brought up in previous vegetation management projects. Again, the appropriate scale to measure climate impacts from vegetation management projects is above the project-level. For a more thorough discussion on climate change and the Allegheny National Forest's vegetation management program, please see Bradford Forest Restoration Draft Decision Notice and Finding of No Significant Impact, pp. 15-16 (available here: https://www.fs.usda.gov/nfs/11558/www/nepa/102383_FSPLT3_4052527.pdf)

For both climate change and air quality, effects related to Cherry Run are expected to be consistent with both the effects disclosed in past comparable projects (e.g. Bradford Restoration) and in programmatic documents for the Forest (e.g. Final EIS to the 2007 Forest Plan).

Social and Economic Environment

Some scoping comments discussed social and economic impacts associated with project activities. In both cases, the project level scale is too small to meaningfully measure impacts to the social and economic environment.

The Cherry Run Project was proposed to accomplish the objectives identified in the 2007 Allegheny National Forest Land and Resource Management Plan. This Plan includes an analysis of the Social Environment from implementing projects such as the Cherry Run Project. This Social Environment analysis includes discussions on Economics and Social Conditions. This analysis (pp. 3-399-3-443) was reviewed for consistency with project activities included in the Cherry Run Project. Similarly, Economics was analyzed on pp. 3-399-3-419. This analysis includes an evaluation of the contribution of timber activities to the local economy (see pp. 3-412-417). Any project-level economic and social impacts are expected to be within the range described in the Forest Plan's Final Environmental Impact Statement.

Federal, State, or Local Laws

The following discussion provides consistency with other Federal, State, or local law or requirements imposed for the protection of the environment for the proposed action. It includes Forest Plan consistency.

²³ The Final Environmental Impact Statement to Accompany the Land and Resource Management Plan is available here: <https://www.fs.usda.gov/main/allegheny/landmanagement/planning>

²⁴ Actions proposed in the Cherry Run Project are similar to that approved in the Bradford Restoration Project. The Bradford Restoration Project, though, treats approximately four times as many acres as that proposed in the Cherry Run Project.

Archaeological Resources Protection Act

Cultural Resources are briefly described elsewhere in this EA. Survey results and a cultural report are provided in District Heritage records. Consultation with tribes would occur for this project. No concerns were identified. A cultural report would be provided to the State Historic Preservation Office (SHPO) requesting SHPO concurrence for the Cherry Run Project.

Clean Air Act

Warren County is identified as in non-attainment (2018) for Sulfur Dioxide. The area of non-attainment is localized in the city of Warren. The project area is located about 15 miles to the southeast of Warren.

Project area effects from the proposed action on the attainment of National Ambient Air Quality Standards (NAAQS) are not expected to be significant. Any effects of proposed actions on air quality would be quickly diffused over time within the project area (ANF 2007 FEIS, page 59). The amount of pollutants added to the atmosphere by equipment implementing the proposed actions over time is not expected to exceed the NAAQS for attainment, nor is the proposed actions expected to have any effect on the SO₂ non-attainment area in the vicinity of the City of Warren, Pennsylvania (Warren County).

Clean Water Act

Within the project area there are no streams or lakes on the 303(d) list. No significant effects to water quality standards are anticipated by implementing the proposed actions. Compliance with the Clean Water Act on the ANF is achieved with the implementation of Design Criteria in this EA, Forest Plan Standards and Guidelines, Management Requirements and Constraints in implementing the proposed actions and Pennsylvania Best Management Practices.

Endangered Species Act

Determinations for ANF ESA species are provided in this EA. Determinations reached for those species having suitable or occupied habitat in the project area match those reached in the Forest Level Biological Assessments/Evaluations (BA/BE) (USDA Forest Service 2007, 2015). Effects evaluated are based on those discussed in the Forest BE (USDA FS 2007e), the amended BE (USDA FS 2011), the 2007 USFWS concurrence letter for the Forest Plan, the USFWS Biological Opinion for the northern long-eared bat for ongoing actions on the ANF (USDI Fish and Wildlife Service 2015a), the Forest Service Eastern Region Programmatic BA (USDA Forest Service 2015), the USFWS Biological Opinion on actions affecting the northern long-eared bat on Eastern Region national forests (USFWS 2015b), and in recent project BA's (USDA FS, 2007 to present). BA's for the project area were prepared (Project Record). The Forest Service would consult, prior to a decision on the project, with the U.S. Fish and Wildlife Service and apply any guidance received to the project. Forest Plan standards and guidelines and/or site-specific mitigation measures would be implemented to conserve these species on NFS lands.

Environmental Justice (Executive Order 12898)

Responses to the public scoping request did not identify any adversely impacted local minority or low-income populations. This project is consistent with the ANF 2007 FEIS, pages C3-433-436.

Federal Cave Resources Protection Act

A GIS (Geographical Information System) mapping review was conducted for the project area (Project Record). GIS and field reviews show no known caves exist where actions are proposed. There would be no significant effects to caves.

Floodplains (Executive Order 11988)

Floodplains exist in the project area and would be temporarily affected while stream and fishery improvements are implemented. In the long term, the stream treatments are expected to benefit

floodplains by slowing water movement and increasing water infiltration. Pennsylvania best management practices and Forest Plan standards and guidelines would minimize the temporary effects. No significant effects to floodplains are anticipated.

Authorities Related to Migratory Birds

The Migratory Bird Treaty Act (MBTA) is a criminal statute that applies to the actual or attempted hunting, taking, capturing, killing, or possession of certain migratory birds and their nests or eggs. Recent court decisions have addressed the Act's application to project-level work such as the Cherry Run Project. (see *Sierra Club v. Martin*, 110 F.3d 1551, 1555 [11th Cir. 1997]; *Curry v. U.S. Forest Service*, 988 F. Supp. 541, 550 [W.D. Pa. 1997]).

Executive Order (EO) 13186 was issued, in part, to ensure that environmental analyses of federal actions assess the impacts on migratory birds, and an expired Memorandum of Understanding between the U.S. Forest Service and the U.S. Fish and Wildlife Service has provided direction regarding migratory birds in the past. The effect of this project on migratory birds is explained in the effects analysis, and design criteria are in place to mitigate impacts to migratory birds. The Cherry Run project is consistent with all applicable requirements pertaining to migratory birds.

National Environmental Policy Act (NEPA)

This EA meets the NEPA criteria described on page 1 of this EA. The public was provided a scoping comment period beginning on March 19, 2019. A comment period is also provided in the release of this EA. Public comments received on the project are reviewed and responded to by the IDT and Decision Maker. An objection period would be provided for the draft decision that this EA supports. A final decision would follow any direction provided by the resolution of any potential objections. Consideration of potential environmental effects are provided in this EA and Project Record, as well as the tiering to the Forest Plan documents and EA's and EIS's specific to this project area. The entirety of documentation for this EA supports compliance with the NEPA.

National Forest Management Act (Forest Plan Consistency)

Implementation of the proposed action is consistent with the intent of the 2007 ANF Forest Plan's long term goals and objectives provided for vegetation management and conforms to other resource standards and guidelines in the Forest Plan (USDA FS 2007a). The project would be implemented without impairing the long-term productivity of NFS lands through implementation of the Design Criteria provided in this EA. Measures to avoid or minimize effects include Forest Plan standards and guidelines, which at a minimum, meet the requirements of applicable laws, regulations, and Pennsylvania state standards, for the affected NFS lands. The analysis in this EA and supporting documentation in the Project Record show that the proposed action is consistent with the National Forest Management Act (NFMA).

Native American Graves Protection and Repatriation Act

No Native American Graves sites are known through surveys (heritage records), nor were any identified as a result of public scoping or consultation with tribal representatives (Heritage Record).

Regional Forester Sensitive Species (Forest Service Manual 2670) – Forest Service Sensitive Species {NFMA and the Forest Service Manual (2670)}

Determinations for ANF RFSS species with occupied and suitable habitat are provided in this EA. Changes caused by the proposed actions in habitat for Forest Plan identified species with viability concerns (SVE) are disclosed in Table 24 of this EA. Appendix D of the Forest Plan also provides potential effects to SVE. The effects of the proposed actions to RFSS and SVE are not expected to be significant. Treatments to improve forest health are anticipated to improve overall habitat for RFSS and SVE and are expected to be beneficial in the long term. Forest Plan

standards and guidelines and/or site-specific mitigation measures would be implemented to conserve these species on NFS lands.

Wetlands (Executive Order 11990)

See Unique Characteristics of the Geographic Area in this EA. Documentation of wetlands is provided in the Project Record. This project does not propose wetland development or modifications. No significant effects are anticipated to wetlands in implementing the proposed action.

Wild and Scenic Rivers Act

There are no Wild and Scenic Rivers in the area of the proposed action as described under Unique Characteristics of the Geographic Area in this EA. There are no significant impacts to Wild and Scenic Rivers by implementing the proposed actions.

PREPARERS, CONSULTATION AND COORDINATION

The following Forest Service Interdisciplinary Team developed this EA and the associated environmental analysis.

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The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

Federal, State, and Local Agencies

U.S. Fish and Wildlife Service
Pennsylvania State Historic Preservation Office

Tribes

The Allegheny National Forest consults with 14 federally recognized Tribes that have historic ties to the area.

REFERENCES

Bjorkbom JC, Walters RS. 1986. Allegheny Hardwood Regeneration Response to Even-age Harvesting methods. Research paper NE-581. USDA Forest Service, Northeastern Forest Experiment Station.

- Dolloff, C.A.; Webster, J.R. 2000. Particulate organic tributary contributions from forests to streams: Debris isn't so bad. *In: Riparian management in forests of the continental Eastern United States*. Verry, E.S.; Hornbeck, J.W.; Dolloff, C.A. (editors). p. 125–132.
- Franklin, J.F., R. Van Pelt. 2004. Spatial aspects of structural complexity in old-growth forests. *Journal of Forestry*:22-28.
- Hille, A. 2014. Silviculture Prescription Guidance for addressing Beech Bark Disease, Emerald Ash Borer and Hemlock Woolly Adelgid, Allegheny National Forest. Unpublished (April 2014), 14 pgs.
- Hornbeck, J.W., et al. 1993. Long-term impacts of forest treatments on water yield: a summary for northeast USA. *Journal of Hydrology* 150:323-344.
- Hornbeck, J.W.; Kochenderfer, J.N. 2000. Linkages between forest and streams: A perspective in time. *In: Riparian management in forests of the continental Eastern United States*. Verry, E.S.; Hornbeck, J.W.; Dolloff, C.A. (editors). p. 89–95.
- Horsley SB, L.R. Auchmoody, R.S. Walters. 1994. Regeneration principles and practices. Pages 205-246 in Marquis, David A., editor. Quantitative silviculture for hardwood forests of the Alleghenies. General Technical Report NE-183. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station.
- Horsley, S. B. 1994. Regeneration success and plant species diversity of Allegheny hardwood stands after roundup application and shelterwood cutting. *Northern Journal of Applied Forestry*, Volume 11, Issue 4, 1 December 1994, Pages 109–116,
- Horsley SB, R. P. Long, S. W. Bailey, R. A. Hallett, P.M. Wargo. 2002. Health of eastern North American sugar maple forests and factors affecting decline. *Northern Journal of Applied Forestry* (19):33-34.
- Horsley SB, R. P. Long, S. W. Bailey, R. A. Hallett, T. J. Hall. 1999. Factors contributing to sugar maple decline along topographic gradients on the glaciated and unglaciated Allegheny Plateau. *In: Sugar Maple Ecology and Health: Proceedings of an International Symposium*. Edited by S.B. Horsley and R.P. Long. USDA Forest Service General Technical Report NE-261.
- Long, R., A. Hille, A. Stottlemeyer, and R. Turcotte. FHM Evaluation Monitoring Progress Report FY2015: Evaluating and monitoring black cherry health trends in response to multi-year stressors in Northwestern Pennsylvania. Unpublished (September 2015), 4 pgs.
- Lynch, J.A.; Corbett, E.S. 1990. Evaluation of best management practices for controlling nonpoint pollution from silvicultural operations. *Water Resources Bulletin* 26(1): 41–52.
- Marquis, D.A., R.L. Ernst, and S.L. Stout. 1992. Prescribing silvicultural treatments in hardwood stands of the Allegheny (Revised). General Technical Report NE-96. Radnor, PA: USDA Forest Service. Northeastern Forest Experiment Station.
- Nyland, R.D. 1996. *Silviculture: Concepts and Applications*. McGraw-Hill, New York. 633p.
- Pennsylvania Department of Conservation and Natural Resources. Forest Invasive Species Program <http://www.fs.fed.us/invasivespecies/speciesprofiles/index.shtml>

- Pennsylvania Department of Conservation and Natural Resources. .Invasive Plant Management for Land Managers. Accessed June 26, 2018 at:
http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20033074.pdf
- Pennsylvania Department of Conservation and Natural Resources. Invasive Exotic Plants in Pennsylvania List. Accessed June 26, 2018 at:
http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20033461.pdf
and
http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20033461.pdf
- Pennsylvania Department of Environmental Protection, Bureau of Water Supply and Wastewater Management. 2016. 2016 Pennsylvania integrated water quality monitoring and assessment report: Streams, category 5 water bodies, pollutants requiring a TMDL. Harrisburg, PA.
[\[http://www.dep.pa.gov/Business/Water/PointNonPointMgmt/WaterQuality/Pages/Integrated-Water-Quality-Report-2014.aspx#.Vv6WeskpCU\]](http://www.dep.pa.gov/Business/Water/PointNonPointMgmt/WaterQuality/Pages/Integrated-Water-Quality-Report-2014.aspx#.Vv6WeskpCU).
- Pennsylvania Department of Environmental Protection. 2005. Timber harvest operations field guide for waterways, wetlands and erosion control. Technical Guidance No. 3930-BK-DEP4016.
- Pennsylvania Department of Environmental Protection. 2016a. Antidegradation requirements.
[\[http://www.pacode.com/secure/data/025/chapter93/s93.4a.html\]](http://www.pacode.com/secure/data/025/chapter93/s93.4a.html); accessed 4/1/2016].
- Pennsylvania Department of Environmental Protection. 2016c. (Chapter 93) Water quality standards. Designated water uses and water quality criteria. Drainage list Q.
[\[http://www.pacode.com/secure/data/025/chapter93/s93.9q.html\]](http://www.pacode.com/secure/data/025/chapter93/s93.9q.html)
- Scheetz, B.; Bloser, S. 2008. Research summary: Sediment reduction from environmentally sensitive maintenance practices on unpaved roads. Center for Dirt and Gravel Road Studies, Pennsylvania State University.
- Siemion, J.; Burns, D.A.; Murdoch, P.S.; Germain, R.H. 2011. The relation of harvesting intensity to changes in soil, soil water, and stream chemistry in a northern hardwood forest, Catskill Mountains, USA. *Forest Ecology and Management* 261: 1510–1519.
- Stuart, G.W.; Edwards, P.J. 2006. Concepts about forests and water. *Northern Journal of Applied Forestry* 23(1): 11–19.
- U.S. Department of Agriculture, Forest Service. 1989. Allegheny National Forest's Monitoring and Evaluation Report for Fiscal Year 1988. Warren, PA. pp. 15-17.
- U.S. Department of Agriculture, Forest Service. 1990. Allegheny National Forest's Monitoring and Evaluation Report for Fiscal Year 1989. Warren, PA. pp. 22-24.
- U.S. Department of Agriculture, Forest Service. 2001. Forest Service Guide to Noxious Weed Prevention Practices accessed June 26, 2018 at
https://www.fs.fed.us/invasivespecies/documents/FS_WeedBMP_2001.pdf
- U.S. Department of Agriculture, Forest Service. 2002. Allegheny National Forest's Monitoring and Evaluation Report for Fiscal Year 2000. Warren, PA. pp. 50-51.
- U.S. Department of Agriculture, Forest Service. 2005. Allegheny National Forest Final Environmental Impact Statement and Record of Decision for the Martin Run Project.

- U.S. Department of Agriculture, Forest Service. 2007, 2015. Forest Level Biological Assessments/Evaluations Effects evaluated are based on those discussed in the Forest BE (USDA FS 2007b), the amended Biological Evaluation (USDA FS 2011), the
- U.S. Department of Agriculture, Forest Service. 2007a. *Allegheny National Forest Land and Resource Management Plan, errata and Record of Decision*. Warren, PA.
- U.S. Department of Agriculture, Forest Service. 2007b. *Allegheny National Forest Final Environmental Impact Statement for the Land and Resource Management Plan*. Warren, PA.
- U.S. Department of Agriculture, Forest Service. 2007d. Allegheny National Forest final environmental impact statement (Herbicide appendix). Warren, PA.
- U.S. Department of Agriculture, Forest Service. 2007e. Biological Evaluation, Allegheny National Forest, Forest Plan Revision. (Forest BE) Warren, PA 344pp.
- U.S. Department of Agriculture, Forest Service. 2010.
- U.S. Department of Agriculture, Forest Service. 2012. Draft Addendum to 2007 Forest Biological Evaluation, Allegheny National Forest, June 2012, Warren, PA.
- U.S. Department of Agriculture, Forest Service. 2014. Allegheny National Forest FY 2008 – FY 2013 Monitoring and Evaluation Report. Warren, PA.
- U.S. Department of Agriculture, Forest Service. 2015a. Programmatic biological assessment: northern long-eared bat. For Land and Resource Management Plans of the Forest Service Eastern Region. Milwaukee, WI: USDA Forest Service, Eastern Region Regional Office. 214 pp.
- U.S. Department of Agriculture, Forest Service. 2015b. Biological Assessment on the proposed actions on the Allegheny National Forest, Pennsylvania. Warren, PA: USDA Forest Service, Allegheny National Forest. 24 pp.
- U.S. Department of Agriculture, Forest Service. 2016. 2015 Herbicide Water Quality Monitoring. Warren, PA.
- U.S. Department of Agriculture, Forest Service. 2016. National best management practices (BMP) program national core BMPs, monitoring protocols and forms, and national database. [http://fsweb.wo.fs.fed.us/wfw/watershed/national_bmps/index.html].
- U.S. Department of Agriculture, Forest Service. 2018. Cherry Run Project Supporting Specialist Reports (Project Record): Biological Assessment of Endangered and Threatened Species for Wildlife, Biological Assessment/Biological Evaluation for Plants, Biological Evaluation for Wildlife, Biological Evaluation/Biological Assessment for Fish and Aquatic Invertebrates, Hydrology Resource Report, Nonnative Invasive Plants Report, Oil and Gas Development Projections, Recreation Report and Vegetation Report.
- U.S. Department of Interior, Fish and Wildlife Service (USFWS). 2015b. Biological Opinion on actions affecting the northern long-eared bat on Eastern Region national forests.
- U.S. Department of Interior, Fish and Wildlife Service (USFWS). 2007. Concurrence letter regarding determinations in the Revised Forest Plan Biological Assessment. January 2007. 21 pp.
- U.S. Department of Interior, Fish and Wildlife Service (USFWS). 2015a. Biological Opinion: Effects to the northern long-eared bat from ongoing actions on the Allegheny National

Forest, Pennsylvania. State College, PA: USDI Fish and Wildlife Service, Pennsylvania Field Office. 41 pp.

U.S. Environmental Protection Agency (USEPA). National Ambient Air Quality Standards (NAAQS).

APPENDIX A. FOREST PLAN DESIGN CRITERIA APPLICABLE TO THE CHERRY RUN PROJECT.

All design criteria in the Allegheny National Forest Land and Resource Management Plan (Forest Plan) (USDA FS 2007) apply to federal actions on the Allegheny National Forest. The plan is located on the ANF website at:

<https://www.fs.usda.gov/detail/allegheny/landmanagement/planning/?cid=stelprdb5044083>. The following standards and guidelines from the Forest Plan, applicable to the Cherry Run Project, were compiled below to support the effects analysis and provide guidance for project implementation.²⁵

Habitat and Species Diversity

Forest Plan Guidelines

- In areas of partial or final timber harvest, scattered tree tops and branches (slash) should be left where felled throughout the stand. A minimum of one 12 inch or greater DBH (diameter) log (minimum of 8 feet long) per acre should be left in final harvest units. (Forest Plan, page 80).
- In all timber harvest units, one-quarter acre within each 5 acres of harvest should be set aside as reserve areas. Layout of reserve areas should emphasize the following: vernal ponds, wet depressions, unique plant communities, rock complexes, den trees, snags, conifers, mast-producing species, and tree or shrub species that are a minor component of the stand. (Forest Plan, page 80).
- Where they occur, up to five den trees per acre greater than 20 inches DBH should be retained. Den trees exhibit at least one noticeable cavity. Trees with the largest cavity receive the highest retention priority. (Forest Plan, page 80).
- Site preparation, cleaning and weeding treatments that remove saplings from forested stands should occur outside the songbird nesting season (April 1 to June 30) (Forest Plan, page 80).

Nonnative invasive plants

Forest Plan Guidelines

- Actions that may contribute to the introduction, establishment, or spread of either noxious or invasive plant species should be designed to include measures to reduce impacts as well as treatment and/or monitoring requirements. To determine the appropriate measures, consult resources such as the “*Forest Service Guide to Noxious Weed Prevention Practices*” (Forest Plan, p. 53).
- Contracts for activities conducted on the ANF should include appropriate clauses for the prevention and/or treatment of invasive plant species (Forest Plan, page 53).

To assist with project implementation, a detailed project implementation plan (Project Record) is provided in “*Nonnative Invasive Plants Report, Prepared to Support the Cherry Run Project Environmental Assessment and Implementation Plan*” (USDA FS 2018).

²⁵ Deviation from Forest Plan standards require an amendment to the Forest Plan. No amendments are proposed for this project. Deviations from Forest Plan guidelines are not planned for this project. If, during implementation, deviations from a guideline is needed, the deviation would be documented in the project file.

Pesticide Use (Herbicide) –

Forest Plan Standards are provided below. Guidelines are provided in the Forest Plan (pages 54 to 59).

Forest Plan Standards

Application (Forest Plan page 54)

- Use only pesticides registered by the Environmental Protection Agency in full accordance with the Federal Insecticide, Fungicide, Rodenticide Act, as amended, and Forest Service handbook and manual direction, except as otherwise provided for in regulations, orders, or permits issued by the EPA.
- A qualified Forest Service Pesticide Applicator would be onsite during pesticide application to ensure compliance with applicable standards and guidelines.
- Pesticide application personnel must have easy access to emergency decontamination, first aid kits, and appropriate spill cleanup materials whenever they are using or transporting pesticides.
- Project personnel would follow all EPA and Commonwealth approved pesticide application regulations.
- Only trained personnel as described in Forest Service Manual 2154.1 shall recommend, use, or supervise the use of pesticides.

Notification (Forest Plan page 54)

- Landowners adjacent to treatment areas would be notified prior to pesticide application. Residents occupying dwellings on adjacent private land would be notified 3 to 4 weeks before spraying begins and again, if requested by a landowner, 24 hours before treatment begins. Individuals (such as loggers, woodcutters, OGM operators, contractors, berry pickers, etc.) known to be using a proposed treatment area shall be notified before treatment begins.

Mixing and Container Disposal (Forest Plan page 54)

- Application equipment, empty pesticide containers, and clothing worn during treatment shall not be cleaned in open water or close to wells.

Surveys of Treatment Areas (Forest Plan page 55)

- Forest Service inspectors would survey the area prior to treatment to identify special concerns and/or areas to avoid during herbicide treatment.
- Before treating an area with herbicide, a survey would be completed to determine the presence of species with viability concerns. If any species with viability concerns are located within treatment areas, adequate measures would be taken to conserve them.

Notification (Forest Plan page 55, 56)

- Signs would be placed along the perimeter of treatment areas where these areas are adjacent to roads, trails, recreation areas, administrative sites, or at any other location where the public can be expected to enter the treatment area. These signs would state which pesticide was used, a short message about how the herbicide works and who can be contacted for more information. These signs would be posted before herbicide treatment and for at least 30 days following treatment.
- Qualified Forest Service personnel would be at each treatment site during herbicide application to caution visitors to stay away from the equipment and crew and to respond to their questions and concerns.

Buffers – Glyphosate (Forest Plan page 57)

- For broadcast foliar mechanical (airblast) application, the following buffers and application procedures shall be observed to provide water quality protection:
 - Shall not be applied to surface waters.
 - Shall not be applied within 25 feet of each side of perennial streams, impoundments, seeps, springs, or intermittent streams with flowing water the day of spraying.
 - Shall not be applied within 25 feet of wet areas (standing water), including vernal ponds, with no defined outlet.
 - Shall not be applied within 10 feet of each side of dry intermittent streams, dry springs, and dry seeps.
 - Airblast shall be directed away from the buffer area when mechanical applications are made within 75 feet of the edge of the buffer.
- For directed foliar backpack and for cut surface application methods, the following buffers and application procedures shall be observed to provide water quality protection:
 - Shall not be applied to surface waters.
 - Shall not be applied within 10 feet of standing or flowing water.
 - Within 10 feet of a dry intermittent stream course, dry springs, and dry seeps, only the cut surface herbicide treatment technique shall be used with glyphosate.
 - Shall not be applied to cut stems in the stream channel.

Buffers – Sulfometuron Methyl (Forest Plan page 57, 58)

- For broadcast foliar mechanical (airblast) application, the following buffers and application procedures shall be observed to provide water quality protection.

For an application rate of 0.09 pounds/acre AI:

 - Shall not be applied to surface waters.
 - Shall not be applied within 25 feet of each side of perennial streams, impoundments, seeps, springs, or intermittent streams with flowing water the day of spraying.
 - Shall not be applied within 25 feet of wet areas (standing water), including vernal ponds, with no defined outlet.
 - Shall not be applied within 10 feet of each side of dry intermittent streams, dry seeps, and dry springs.
 - Airblast shall be directed away from the buffer area when applications are made within 75 feet of the edge of the buffer.

For an application rate of 0.19 pounds/acre AI:

 - Shall not be applied to surface waters.
 - Shall not be applied within 50 feet of each side of perennial streams, impoundments, seeps, springs, or intermittent streams with flowing water the day of spraying.
 - Shall not be applied within 50 feet of wet areas (standing water), including vernal ponds, with no defined outlet.
 - Shall not be applied within 25 feet of each side of dry intermittent streams, dry springs, and dry seeps.
 - Airblast shall be directed away from the buffer area when mechanical applications are made within 100 feet of the edge of the buffer.
- For the directed foliar backpack application method involving the use of sulfometuron methyl (0.09 or 0.19 pounds/acre), the following buffers and tactics shall be used to provide water quality protection:
 - Shall not be applied to surface waters.
 - Shall not be applied within 10 feet (0.09 pounds/acre) or 25 feet (0.19 pounds/acre) of standing or flowing water.
 - Shall not be applied within 10 feet (0.09 pounds/acre) or 25 feet (0.19 pounds/acre)

of dry intermittent stream courses, dry springs, or dry seeps.

- Other Design Criteria for sulfometuron methyl: The Forest Service is implementing a 50 foot aquatic buffer as shown on the product label.

Drift (Forest Plan page 58)

- The perimeter of treatment areas would be treated in such a way as to minimize drift outside the designated treatment area, particularly where sensitive areas such as private lands or buffer areas exist adjacent to treatment areas.

Recreation

Forest Plan Guidelines

The North Country National Scenic Trail should be constructed and maintained according to the desired ROS setting for each management area that it passes through and managed to a high SIL (see 2380 Scenery standards and guidelines for additional information).

Temporary openings resulting from management activities should not exceed 300 linear feet along the trail.

No slash resulting from management activities should be left within 25 feet of the center line of the trail.

No fencing should be constructed within 25 feet of the center line of the trail. (Forest Plan, page 61).

Riparian Corridor

Forest Plan Standards

- When management actions occur in the riparian corridor, special attention would be given to soils, hydrology, and riparian dependent resources. (Forest Plan, page 74).

Forest Plan Guidelines

- To avoid rutting within riparian corridors, heavy equipment operation should utilize low ground pressure (less than 15 psi contact pressure with zero inches of penetration) or occur during proper site conditions (dry or frozen). (Forest Plan, page 75).
- Heavy equipment should not be operated within ten feet of intermittent streams or within 50 feet of perennial streams except for facility, trail, and road maintenance, stream crossing construction or stream restoration. (Forest Plan, page 75).
- Where new or existing permanent roads are within 300 feet of perennial and intermittent streams, a high quality, non-erosive surfacing material, binding material, or other suitable material should be used to control sediment delivery. (Forest Plan, page 75).
- Within riparian corridors identified in Table 24 of the Forest Plan, timber harvesting activities should not occur. For perennial streams and other perennial waterbodies, timber harvesting should not occur within a minimum of 100 feet or 50 feet plus 4 feet for every 1 percent of slope, whichever is greater. For intermittent streams and mapped wetlands, timber harvesting should not occur within a Minimum of 50 feet plus 2 feet for every 1 percent of slope. (Forest Plan, p. 84 and Table 24).

Scenery

Forest Plan Guidelines

- Project activities should meet or exceed the SILs identified in the Forest Plan SIL map. (Forest Plan, page 64).
- Achievement of SILs should be met within three years of project completion (Forest Plan, page 64).

Silvicultural/Harvest Systems

Forest Plan Standards

- Forest Service inspectors would survey the area prior to treatment to identify special concerns and/or areas to avoid during herbicide treatment. (Forest Plan, page 55).

Forest Plan Guidelines

- Seasonal restrictions on vegetation management actions may be imposed to protect or manage featured plant or animal species, to provide recreational opportunities, or to protect soil and water resources. (Forest Plan, page 65).
- In all harvest systems and forest types, retain a component of healthy trees of species, which are minor components of a stand, particularly mast producers. (Forest Plan, page 65).
- In all harvest systems and forest types, retain low-growing, flowering, and fruiting trees and shrubs unless their presence would preclude adequate regeneration of the desired tree species. (Forest Plan, page 65).
- Where desirable to regenerate a forested stand, and it is necessary to remove hemlock or white pine, ensure a component is retained within the stand (>15 feet of basal area/acre) and on the landscape. (Forest Plan, page 65).
- To provide thermal cover and habitat diversity, maintain a rhododendron, white pine and mountain laurel component in harvest units where they currently occur (Forest Plan, page 65).

Soils

Forest Plan Standards

- Disturbed soils dedicated to growing vegetation shall be stabilized by seeding, mulching, or constructing structural measures as soon as possible after project completion or prior to periods of inactivity. The intent is to minimize the time that soil is exposed on disturbed sites or retained in impaired condition. (Forest Plan, page 72).
- Equipment operation, except in emergency operations, would only occur when soils are capable of supporting equipment without incurring detrimental compaction, puddling or rutting in excess of regional standards (Forest Service Handbook 2509.180). (Forest Plan, page 73).

Forest Plan Guidelines

- Soils commonly wet at/or near the surface during a considerable part of the year or soils highly susceptible to compaction (Group 3 Soils): Heavy equipment use should be prohibited or mitigated when soils are saturated or during freeze-thaw cycles. Aspect may play a role in determining the ability to safely operate on these soil types. (Forest Plan, page 73).
- To maintain soil nutrients, avoid whole tree harvesting and leave slash from harvest operations where felled. Slash may be used to reduce compaction by driving over the slash in the skid trails, but all slash should remain in the unit and should not be hauled to the landing. (Refer to 2380 Scenery standards and guidelines.) (Forest Plan, pages 73).

Species with Viability Concerns

Forest Plan Guidelines

- Impacts from timber harvest and reforestation treatments to species with viability concerns should be avoided or mitigated through the use of seasonal limitations and other measures (Forest Plan, Page 80).

Temporary Openings Created by the Application of Even-aged Silviculture

Forest Plan Standards

- Temporary openings shall be separated by a manageable stand. The minimum spacing between temporary openings shall be 300 feet. (Forest Plan, page 68). Note: If it's not possible to separate by a manageable stand, then the area is considered to be a larger opening and disclosed as a single area that exceeds 40 acres.
- Even-aged treatments must retain residual trees, snags and down material identified in 2600 Wildlife, Fish and Sensitive Plant Habitat (Forest Plan, page 68).

Water Resources

Forest Plan Guidelines

- Maintain watershed health and water quality by following guidelines contained in the current versions of "*Timber Harvest Operations Field Guide for Waterways, Wetlands, and Erosion Control*" and "*Erosion and Sediment Pollution Control Program Manual*," Department of Environmental Protection, Commonwealth of Pennsylvania (Forest Plan, page 74).
- Surface armoring (at stream crossings) shall be applied on planned timber haul routes prior to timber hauling. This gives effect to the following Forest Plan guideline: Where new or existing permanent roads are within 300 feet of perennial and intermittent streams, a high quality, non-erosive surfacing material, binding material, or other suitable material should be used to control sediment delivery. (Forest Plan, page 75).

Wetlands, including seeps, springs, and vernal pools

Forest Plan Standards

- A Wetland Management Zone would be established around wetlands that may be affected by a project. In this zone, limited actions would occur as defined in the guidelines for the protection of wetlands and plants and animals that utilize them. The zone for wetlands including springs and seeps is 100 feet and the zone for vernal pools is 200 feet. The distance is measured from the high water mark of the wetland perimeter. (Forest Plan, page 77).

Forest Plan Guidelines

- Wetlands, springs and seeps would be protected with a 25-foot no activity buffer and a 25 to 100 foot zone from these resources where 50 percent canopy cover would be maintained. (Paraphrased from guidelines listed on Forest Plan, page 78).
- Vernal pools would be protected with a 100-foot no activity buffer and a 100 to 200 foot zone where 50 percent canopy cover would be maintained. Actions within the riparian zone and wetland management zones are limited to minimize changes to water quality and water quantity (Stuart and Edwards 2006). (Paraphrased from guidelines listed on Forest Plan, page 78).

APPENDIX B: HOW THE FOREST SERVICE USED SCOPING COMMENTS IN THE CHERRY RUN PROJECT.

For the Cherry Run Project, all scoping comments were reviewed and analyzed for issues that may generate a new alternative to accomplish the project purpose and need. Comments were also analyzed for issues that should be analyzed in the Environmental Assessment. A brief discussion of how these comments help to inform the Cherry Run analysis is included below. A more thorough response to these comments is include in the project file.

Commenter	Comment	Forest Service Response
ANF Chapter, NCTA – Jesse Lucks, Jeff Manelick, Kurtis Swartz, Mike Toole, and Tina Toole	The ANF Chapter of the NCTA submitted a scoping comment expressing concern with project impacts on the NCNST. This includes impacts from canopy removal and machine use on the trail and concern over hiker safety, the integrity of blue NCNST blazes, economic impacts and scenery. A number of mitigations were proposed in the comment.	The ANF Chapter of the NCTA comment was reviewed by Forest Service staff and used to help design the mitigation measures for the project. Issues in the comment were also used to develop the analysis for the project. More issue-specific responses to the comments were developed and are included in the project file.
David Kazmierczak	Mr. Kazmierczak’s comment expressed concern with timber cutting in close proximity to the NCNST – specifically that this cutting will increase invasive species along the trail and create unsightly views. A buffer on both sides of the trail was suggested. Mr. Kazmierczak’s comment also expressed safety concerns to NCNST users, specifically the use of blue paint to mark timber and timber operations during the recreating season.	Mr. Kazmierczak’s comments were utilized to better focus the NCNST analysis. Included in the Cherry Run project are a number of mitigations to help ameliorate the effects of logging on the trail and trail users. In addition, the Allegheny National Forest includes a number of design criteria that are applied to activities around the NCNST. The relevant design criteria are included in this EA, Appendix A. Mitigations are included in this EA on p. 10.
Dick Artley	Mr. Artley’s scoping email included a number of general statements related to logging and road building. The comment includes three broad themes: the Forest Service’s bias towards logging and road building; the EA should disclose how natural resources will be restored by project activities; and the deleterious impacts of road building. Mr. Artley’s comment also included four “opposing view” attachments: one offered perspectives on logging impacts; another offered perspectives on the	Mr. Artley’s scoping comment did not include any specific information or suggestions related to the Cherry Run Project Area or the purpose and need for the project. Mr. Artley’s information was reviewed and analyzed for additional analysis needs or alternative means to accomplish the purpose and need. No additional analysis needs or new alternatives were developed from the comment and attachments.

Commenter	Comment	Forest Service Response
	impacts of roads, a third discussed glyphosate effects and a fourth discussed best available science.	
Donna Zariczny, President, Warren County School District	Ms. Zariczny's comment expressed concern with the health of the forest in the Cherry Run Project Area and the age imbalance throughout the Forest. The comment suggested discussing how the project will better balance age classes and how it impacts local economics, including contributing receipts to the school district.	The Cherry Run EA includes a discussion of age classes within the project area and how the project will better balance these age classes. In terms of economics, the EA does not attempt to quantify the economic contribution of this project alone; rather, the EA incorporates by reference the economic analysis from the Forest Plan.
Pauline Steinmeyer	Ms. Steinmeyer's comment included a number of analysis questions on a wide ranging number of topics including silviculture, the size of the temporary openings, water quality (from the aquatic habitat improvements), mitigation measures, scenery, NCNST, soils, carbon storage, and air quality.	In response to Ms. Steinmeyer's comments, the analysis was better focused on some of the issues raised in the comment. In some cases (e.g. air quality, social), the topic is better suited to analysis at the program-level scale (e.g. the analysis involved in the Forest Plan's Final EIS). In these cases, the previous analysis is incorporated by reference in the Cherry Run EA. Other comments were not used in the analysis but are provided responses in the project file.